APRIL / 1959

THE MANAGEMENT REVIEW

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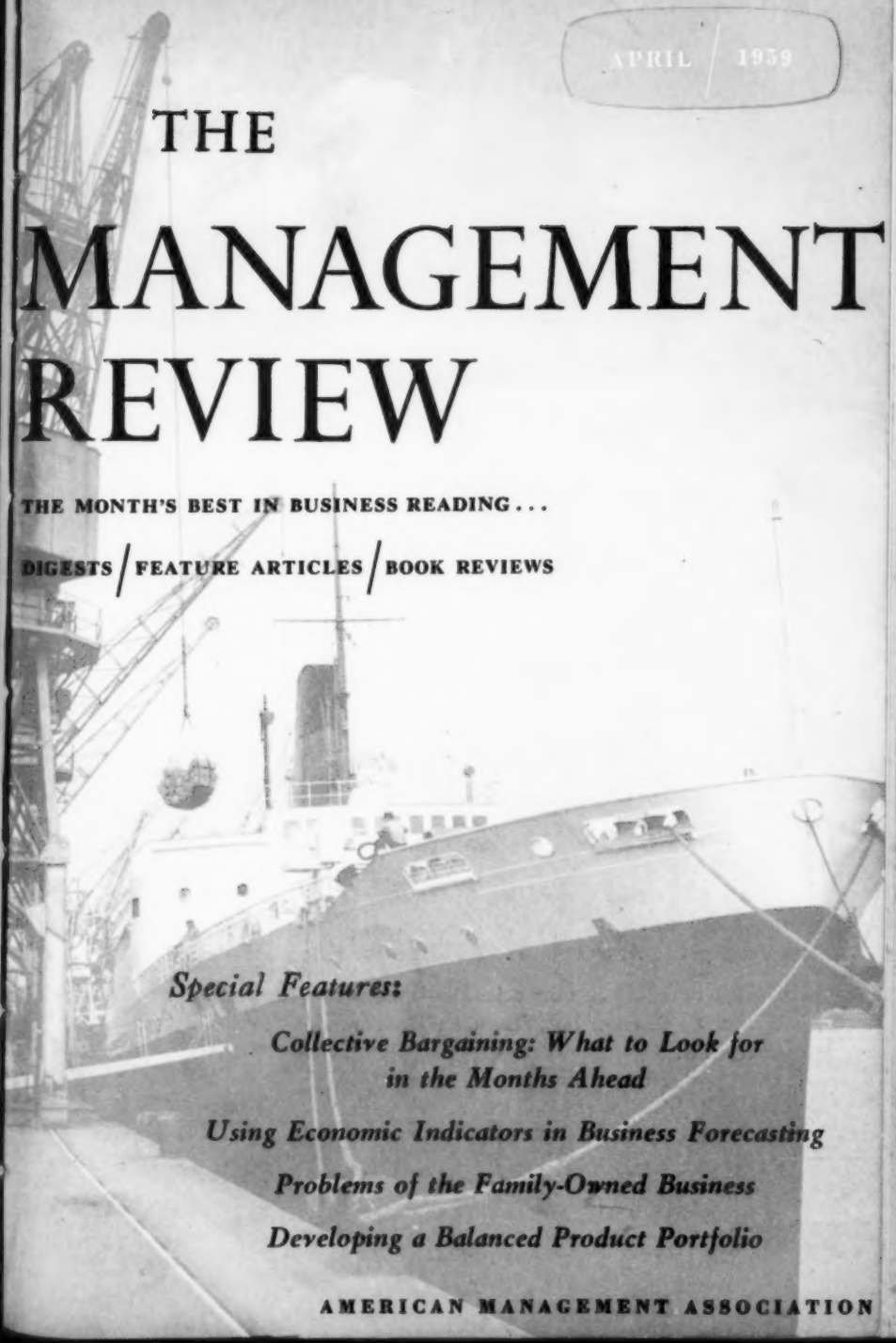

Special Features:

Collective Bargaining: What to Look for in the Months Ahead

Using Economic Indicators in Business Forecasting

Problems of the Family-Owned Business

Developing a Balanced Product Portfolio

AMERICAN MANAGEMENT ASSOCIATION

in this issue . . .

- **The Coming Issues in Collective Bargaining.** It's a sure bet that 1959 bargaining sessions will be marked by hot debate and watched throughout the nation with more than usual concern. Among the critical factors: the onward-and-upward wage-price spiral; labor's intention of pushing for wage increases and greater job security; the continuing lag in reemployment; the new problems resulting from the mounting rivalry between craft and industrial unions. This month's opening article discusses some of the key issues ahead and appraises management's growing determination to put up stiffer resistance to union demands.

- **The Tools of Business Forecasting.** Although business forecasting is still far from infallible, a new technique developed by the National Bureau of Economic Research promises to make it more exact. Dr. Henry Platt's article (page 9) will be of interest to all executives who are concerned with projecting financial trends—and to the still larger group who must interpret other people's forecasts.

- **Some Day, Son, This Will All Be Yours.** Whether or not he works for a family business (and such organizations are far more prevalent than one might think), chances are that the average executive has direct dealings with a number of them. For a close-up on some of the special problems of the family-controlled enterprise, see the article on page 14.

- **Tomorrow's Nest Eggs—How Many and Where?** The new product that is clearly in its formative stages today may well be the company's prime profit producer a few years hence. How, then, should management divide its development and marketing efforts to make the most of going products and, at the same time, to have a succession of others to take over when the time comes? Dr. Philip Marvin discusses today's decisions about tomorrow's products in his article (page 20) entitled *Developing a Balanced Product Portfolio.*

—The Editors

APRIL 1959
Volume XLVIII, No. 4

THE MANAGEMENT REVIEW

FEATURES

BUSINESS DIGESTS OF THE MONTH

Trends and perspectives

Cover photograph: Ewing Galloway

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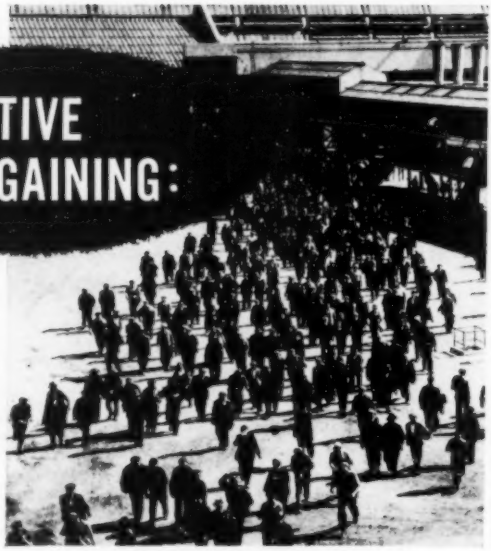
COLLECTIVE BARGAINING:

What to Look for in the Months Ahead



■ *William Karpinsky*
American Cyanamid Company

WHAT'S AHEAD IN COLLECTIVE BARGAINING? Judging from the direction of continuing trends and the implications of current developments, we can look for a year of increasing labor pressure, countered to some degree by stronger management resistance to union demands. Briefly, here are some of the developments we can expect in 1959:

- Unions will concentrate on wages, and will probably achieve increases averaging about 5 per cent—10 cents in manufacturing industries, 13 cents in nonmanufacturing.
- Despite tougher attitudes on both sides of the bargaining table, we should see no more than an average number of strikes this year.
- Few, if any, new fringes will be forthcoming, but improvements in existing benefits totaling another 3 cents an hour will probably be granted.

- The lag in re-employment will stimulate union demands for increased worker security—better supplemental unemployment benefits, severance pay, work sharing, and other devices aimed at continuing work income.
- Renewed demands for the shorter work week will crop up, but labor will settle for better holiday and vacation benefits at this time.
- The rivalry between craft and industrial unions, emerging as a sharp issue again, will make jurisdictional disputes an increasing problem for management.

THE OUTLOOK FOR WAGE DEMANDS

The bargaining subject uppermost in most minds is wages. During 1958, despite lay-offs, low business volume, and sharply curtailed profits, unions scored substantial wage gains averaging slightly less than 9 cents per hour, with some fall-off in the value of fringe benefits granted. The size of these wage increases was something of a surprise, since it is usually presumed that bad times and unemployment will sharply curtail wage gains. A breakdown of the average shows that manufacturing wages rose about 8 cents, and nonmanufacturing, including construction, 12 cents—a 4 per cent increase in national wage payments.

In 1959, wages should rise somewhat higher than they did in 1958. The outlook indicates a national average increase of approximately 10 to 11 cents per hour, about a 10-cent rise in manufacturing industries and 13 cents in nonmanufacturing. This represents a percentage increase of approximately 5 per cent.

On what basis can any realistic projection of wages be made? A number of factors point the way:

About one-quarter of the contracts in the United States, covering 3 million employees, provide for automatic increases of about 8 cents without negotiations in 1959. These wage hikes, usually known as deferred increases, establish a fairly fixed floor for union demands in current negotiations. In many cases, they also provide for additional cost-of-living adjustments.

It can readily be seen that the existence of these automatic annual increases in certain industries would exert considerable influence on the general level of wages. The fact that deferred

increases averaged over 8 cents per hour in 1958 may account, in part, for the rather high level of wage adjustments during the recession.

An outstanding example of a deferred increase occurs in the automobile industry, where wages are determined arithmetically by a combination of the annual improvement factor and cost-of-living escalation. The auto contracts stipulate that all wages shall be upped 2½ per cent or 6 cents per hour, whichever is higher, plus cost-of-living gains. This could total 9 to 10 cents per hour in 1959.

Another factor in the national wage picture is, of course, the cost of living. Governmental authorities predict a rise of less than 2 per cent for 1959. Should this prediction prove true, labor unions will be forced to resort to more forceful arguments to justify continued substantial pay raises. These arguments will be concerned mostly with corporate profits and productivity.

Industrial profits are certain to top the 1958 total by about 30 per cent during the coming year, and such a ready-made argument will be roundly exploited by the unions at bargaining tables. The fact that 1958 was a recession year when profits dropped 15 per cent and that 1959 industrial income, either before or after taxes, will represent a recovery from recession lows will, of course, be disregarded by union spokesmen, as will management's right to expect higher corporate profits as added returns on the tremendous capital investment in plant, property, and equipment during the past several years.

PRODUCTIVITY AND WAGES

The question of productivity—the increased output of industry due to technological improvements—will also be hotly debated. This issue was recently highlighted by the President's plea to both labor and management for restraint and self-discipline in negotiating wage matters: "Increases in money wages and other compensation not justified by the productivity performance of the economy are inevitably inflationary."

Officials of the AFL-CIO have, of course, disclaimed any part in creating inflationary trends through excessive wage increases. Yet management points out that, in the decade just after World

War II, money wages rose at a faster rate than the rise in productivity. Wages advanced about 60 per cent, and productivity rose a little less than 30 per cent. The difference between the two—30 per cent—represents the approximate rise in prices. The most generally accepted estimate of long-term productivity is about 2.5 per cent per year. General Electric has calculated the productivity increase at 2.1 per cent per year and flatly asserts that any increase "much over 2 per cent is inflationary." Walter Reuther, on the other hand, cites government statistics for the short-term post-war period, which, he claims warrant 3.9 per cent as a measure of productivity.

The truth may lie somewhere between: probably any national wage package—money plus fringes—which exceeds 2.5 per cent is inflationary. Of course, some expanding industries may well exceed 2.5 per cent in wage concessions and still not be forced to raise prices; in other cases, even 2.5 per cent would be too much.

Of course, wages are not the only factor in our economy that exerts upward pressures on prices. Higher profit margins, the fixed cost of unused capacity, higher interest rates, consumer credit, and the use of profits for capital expansion—all of these may contribute to higher industrial prices.

THE STRIKE PICTURE

It is often stated that collective bargaining has advanced far in the last 25 years. With this, no serious observer of the labor scene would disagree. Negotiations are more reasoned, factual data is being exchanged instead of epithets, the art of compromise is being cultivated, and the labor relations atmosphere is more businesslike and more understanding. Both parties are turning to representatives who are endowed with patience, a knowledge of their plant and industry, and an ability to express ideas clearly. (Even now, of course, strong differences are quick to trigger impassioned oratory, muscle flexing, and ritualistic charges and countercharges.)

One reason collective bargaining has made such strides in the last decade is the fact that we have rarely had to negotiate wages on either an individual company or individual plant basis. In the majority of cases, basic wage decisions are made by a few key industries or a few key companies and the rest follow along. De-

ferred increases, prevailing area wages, pattern settlements, escalator clauses—these and other practices determine wages. The negotiators go through all the traditional motions and arguments, but the real issue—cents per hour—has already been largely decided by outside forces.

The real test of peaceful collective bargaining will come when management can no longer pass on higher wage costs as higher prices. Strikes may really become prevalent then. Or, possibly the government will take both parties off the hook by the imposition of price and wage controls.

The best statistical evidence of better collective bargaining is the comparatively small number of strikes that dislocate our economy. The follow-the-leader process in wage negotiations and the recognition of a serious strike threat as bargaining dynamite would appear to account for the fairly low level of work stoppages in recent years. Neither side can afford to play with a strike threat carelessly—bluffs are too often called. Management has learned the hard way that, given sufficient reasons, real or imagined, employees will strike. Furthermore, management has learned that employees can live weeks without a paycheck by means of savings, strike benefits, and other work. At the same time, unions have begun to realize that a management decision to take a strike is not based upon misconceptions of worker loyalty, union weakness, or hopes for a quick settlement of the walkout, but on a calculated weighing of economic alternatives. At times, a company policy or a matter of principle may be at stake.

Sometimes, however, management has little choice as to whether a strike shall take place or not. Strikes may have political motivations. One of the best ways to achieve renewed solidarity in a split union is to gang up on that common enemy—the employer. The steel industry, the Steelworkers Union, the Pittsburgh press, steel customers, and practically the entire country are expecting a steel strike this summer. Why? Certainly not because the steelworkers are underpaid—the average rate of pay at the end of 1958 was about $3.00 per hour, which did not include fringe benefits worth substantially more. The reason most commonly given is that President David MacDonald and his followers must reassert their mili-

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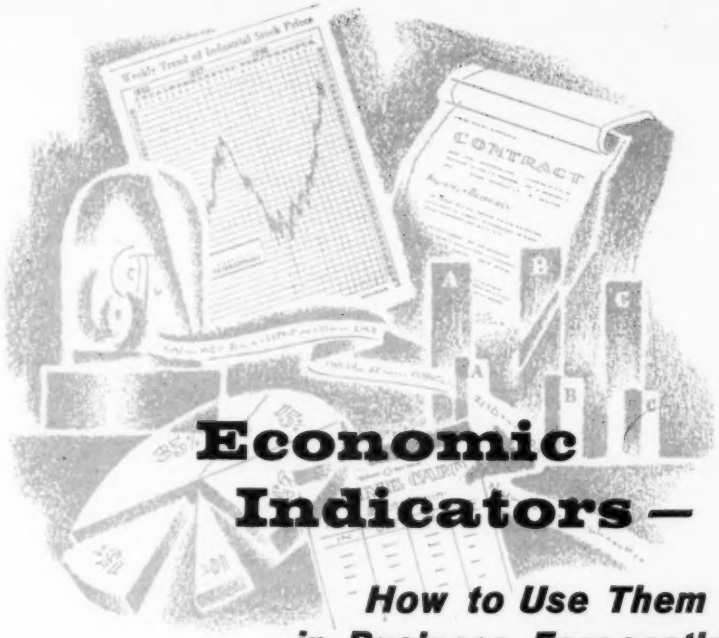


Economic Indicators —

How to Use Them in Business Forecasting

■ *Henry M. Platt*

THE ART OF BUSINESS FORECASTING has come a long way since the sixteenth century, when the German banking house of Fugger first hired an astrologer to prophesy financial trends. But in spite of the great strides that have been taken, there is still no infallible indicator of business activity—and most economists will admit that, even today, much forecasting necessarily consists of educated guesses.

There are, however, a variety of reliable and widely used economic indicators that can go far in plotting the course of general business activity, and their use has enabled economists greatly to improve their forecasts of cyclical business changes during the past ten years. One of the most significant developments in this area has been the National Bureau of Economic Research's technique for utilizing these economic indicators. Businessmen concerned with

This article is based on the results of a study conducted by Dr. Platt under the auspices of the Amos Tuck School of Business Administration, and made possible by a grant from the Alfred P. Sloan Foundation.

forecasting will be interested in this technique and the results of its use through three postwar business cycles.

Although National Bureau economists point out that they are not wedded to any specific theoretical explanation of business fluctuations, they have tended to view them within the framework of the theory of the self-generating cycle. According to this theory, changes in business activity follow a recurrent pattern.

THE SELF-GENERATING CYCLE

To understand why, let us break into a cycle just as a revival has begun. Sales have been lagging, inventories are declining, wholesale prices are relatively low, and there is a good deal of excess capacity. Now, as output and incomes rise, consumer demand is strengthened, so sales revenues increase. Sales continue to exceed output and inventories become smaller still, but the rate of decline diminishes. Cost-price relationships are more favorable and business expectations are improved, so plans are initiated to expand production further. Working hours are increased and workers re-employed, so payrolls expand. These developments are facilitated by improved business liquidity and increased availability of bank credit and reasonable terms.

Preparations to expand often include commitments to replace outmoded equipment. These commitments stimulate the economy: They promote increases in output and employment, which generate a still further increase in purchasing power, which strengthens demand still further. In short: Forces of expansion are reinforcing each other in the economy, and each firm and industry that expands creates new business for other firms and industries, until almost all firms and industries are moving upward.

Straining to fill heavy orders, businesses bid against each other more aggressively for materials, which therefore rise in price. Higher employment creates labor scarcities, so labor demands wage increases and other benefits, and the price of labor rises. Businesses step up their borrowing to carry larger inventories and increase investment in plant capacity. The expansion of bank credit presses against bank reserves; the Federal Reserve System may limit or reduce its holding of U.S. securities, so member banks' reserves contract still further. Money begins to be tight, and interest rates rise.

As business-operating costs start to increase, profit margins narrow in some industries, especially those whose prices are rigid. But many companies simply raise their own prices, and earn still greater profits, so new investment keeps expanding.

But beyond a certain point any price rise will produce a dip in sales and reduce net income; eventually, therefore, cost increases cut into profits. By this time, too, productive capacity has been enlarged to a point where it exceeds demand; this enlargement puts pressure on prices and further reduces profits. Their optimism ebbing as their profits wane, businessmen start to trim their expenditures for plant and equipment. As a result, their suppliers' sales and profits start to slide.

One company after another is affected. Business investment, personal income, consumer expenditures, and profits all begin to fall, and each decline reinforces the others. The economy moves cumulatively downward.

Recession and Recovery

As sales fall off, businessmen unhappily find their inventories rising; they now cut production sharply. Employment declines. Consumption, though supported by unemployment insurance and other government outlays, continues to fall off; consumption of consumer durables, especially, declines sharply. But production falls even more sharply. So inventories are liquidated, the loans by which they were financed are paid off, and banks have more funds. Business working capital also rises.

The Federal Reserve tends now to buy U.S. securities, making still more funds available. It also lowers the rediscount rate, the interest rate it charges banks when they borrow to bolster their reserves. Banks become more willing to finance proposed business investments and housing projects that were postponed for lack of funds during the boom. Therefore the letting of construction contracts starts to rise.

Some excess funds find an outlet in common stocks, which, with profits declining, have fallen to low levels. Stocks stop falling and begin to rise. The rise tends to restore consumer confidence and improve business expectations.

By now many firms have replaced some equipment and improved

their production methods in an effort to cut costs and widen profit margins. As inventories finally fall to a level where they sometimes cannot meet demand, industrial production begins to expand again. As it does, first the average work week becomes longer, then employment rises. Profit margins are generally still rather thin, but as overhead costs are spread over an increasing number of units of output, they begin to widen for many companies. Primary prices are low in relation to retail prices, so industry starts to build up stocks of goods. These purchases stimulate the economy; expanding production raises personal incomes and consumer expenditures; prices and profits start upward.

In short: a new revival has begun.

Profits Are the Key

The above picture is obviously oversimplified and incomplete. It nevertheless makes three points clear:

First—according to this theory—business fluctuations are a self-generating phenomenon inherent in the private-enterprise system. Each phase of the cycle contains the seeds of its own reversal: the pressures that produce a contraction are built up during an expansion, and vice versa.

Second, the economy does not change direction all at once. Changes are transmitted from one sector to another in a cumulative process that takes time.

Third, because (1) organization and planning of production in a private-enterprise economy are centered in the individual firm, and (2) any decision to expand or contract is motivated primarily by the profits a firm is earning and expects to earn, profits are the strategic variable.

THE SEARCH FOR THE "IDEAL" INDICATOR

Not only do all elements of economic activity not change direction at once; many have cause-and-effect relationships. Therefore—as we shall illustrate later—changes in certain activities generally precede changes in others.

Economists, long aware of this, once hunted for the single indicator, or two or three indicators, that could point the course of the whole economy. Once many thought stock prices could do this;

especially just before the Great Depression, many were forecasting on this basis. Others put their faith in steel-scrap prices, still others in building permits.

But their search was bound to fail, because no indicator reaches its turning points in *invariant* relation to turning points in general business activity. In 1929, for example, stock prices kept rising for a month or two after the general-economic peak had been passed.

In 1937, during a rather sharp recession, the government asked the National Bureau to compile a list of statistical indicators that might be expected to signal an impending recovery. Complying with this request, National Bureau economists Wesley C. Mitchell and Arthur F. Burns analyzed nearly five hundred monthly and quarterly time series to determine their relationships to past general-economic peaks and troughs.

THE ECONOMIC INDICATORS

Their study confirmed that no "ideal" indicator existed. But they were able to list twenty-one indicators with one or more superior characteristics each, after considering for each:

1. How long it had been available.
2. The length and variability of its lead or lag period. (One that led three times by three months was obviously better for this purpose than one that led twice by one month and once by seven, notwithstanding that both *averaged* three months ahead.)
3. Its smoothness (for easy identification of turning points).
4. The amplitude of its cyclical movements.
5. How importantly it was related to general business activity.

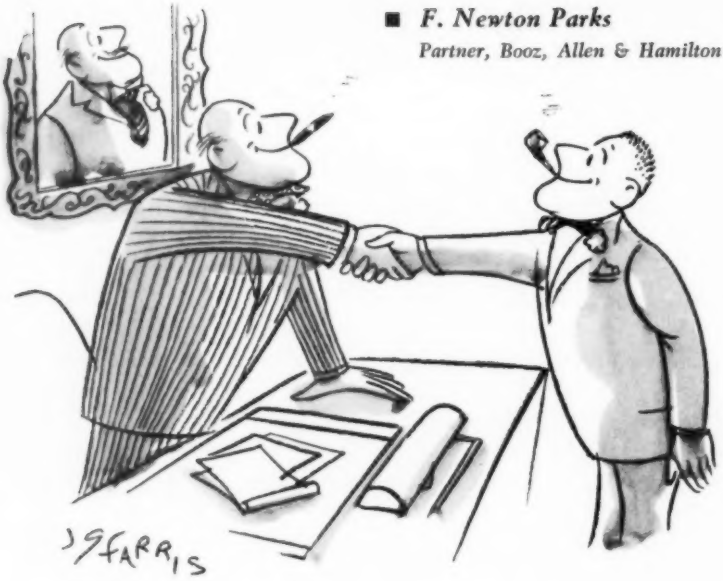
In 1950 Geoffrey H. Moore revised the list. It now comprises eight indicators that ordinarily lead, eight that tend more or less to coincide with, and five that generally lag behind cyclical turning points. The leaders' function is to give notice when the economy is about to change direction, the coinciders' to indicate the turning point; a turn in the laggers confirms that the cycle is in its new phase and gives a sign to watch for harbingers of the next reversal.

The leaders:

1. Number of new incorporations
2. New orders, manufacturers' durable goods

(*Continued on page* 67)

■ *F. Newton Parks*
Partner, Booz, Allen & Hamilton



Problems of the Family-Owned Business

Even if you don't work for a family business, you probably deal with several of them. Here's an inside look at some of their problems.

WHAT ARE THE KEY PROBLEMS in running a family business? The question is far more significant than is indicated by the scant literature on management practices of family businesses. It is reasonable to conclude that family or closely held companies are in the majority and play a powerful role in the over-all business management and control in the nation. By way of evidence:

- 87 per cent of all businesses, according to an Office of Business Economics figure, are individually owned or are partnerships.
- 48 per cent of the total manufacturing establishments in the 1954 Census are individually owned or are partnerships. The total figure includes plants in multiunit operations, although for the most part multiplant operations are not family controlled.

- Almost 10 per cent of *Fortune*'s 500 largest companies show evidence of strong family control.
- Only 0.3 per cent of U.S. corporations are listed on the 15 national stock exchanges, and most nonlisted securities are probably closely held ones.
- A study of American business leaders found that 26 per cent are sons of owners, and a high percentage of these remain in their father's business.*

A family business is a very personal affair, and it is difficult to impose the usual organization rules and principles. Of course, the "people element" is important in dealing with any organization problems, but in a family business, it becomes absolutely essential to give this element special emphasis if acceptable and workable solutions are to be reached.

Sound organization principles are still applicable to family firms, but such matters as financial control, succession of management, estate taxes, and family relationships call for organization practices that are tailored to the particular family situation. Therefore, it is probably sensible to start by developing company objectives and organization plans without regard to the family situation that exists. This move, which permits the application of basic management principles, can then be followed by an adjustment to meet compelling family interests.

BASIC DIFFERENCES

Obviously, the differences between corporate and family businesses are manifold. Here are four of the most significant:

1. In the family business there is an inextricable tie-in of the family personal interests and the interests of the business. The problems of the business cannot be understood without first understanding the family itself: What motivates it? What are its financial interests and problems? What are its personal ambitions and hurdles? What are its long-term plans? Only when these questions are understood and answered can one hope to resolve the organization matters that influence the success or failure of the business.

* W. Lloyd Warner and James C. Abegglen, "Occupational Mobility in American Business and Industry," University of Minnesota Press, 1955.

2. A somewhat related element is the emotional bias of the family business. Someone has said, "When dealing with people, emotions are facts." This is particularly true in a family business. It doesn't make a great deal of difference whether certain things about the business or family are true; if the family generally feels that they are true, this emotional bias must be recognized and carefully dealt with. Emotions run much higher in a family business than in a corporate business—just as they do in a family quarrel—and it is difficult, if not impossible, to appraise a family organization problem with scientific objectivity and arrive at a feasible solution. The organization problems must be reviewed from the same side of the desk that the family occupies—with an appreciation of the tensions, the loyalties, and the frustrations.

3. Family businesses are often more secretive about finances than are corporations. Since we are dealing with "personal" matters, we find that financial and cost figures are not freely distributed throughout the organization. Many times a family member is the chief financial officer, and the fact that the stock may not be listed minimizes the legal as well as stockholder-relations requirements for detailed financial statements.

Such secrecy about financial data may stifle the development of adequate business controls. This may not be overly serious while the business is small, but growth may find the business operating without the necessary data for either sound planning or control.

4. Profit requirements in a family enterprise are normally less demanding than in the corporate business. Whether or not it is acknowledged, a strong objective of family enterprises may be the continuous employment of present and future family members. Similarly, a family company often feels a stronger responsibility for providing continuous employment in a community that it has dominated over a sustained period of time. Widely held corporations can usually look at these matters from a more detached point of view.

The fact that families may be more lenient in setting profit objectives increases their vulnerability to business declines. It may also weaken the company's financial structure and ultimately lead to business failure.

These basic aspects of the family business can create organization

problems that call for highly individualized treatments. Such problems can be classified under five headings:

1. *The Problem of Succession.* How does a father select a son or son-in-law to take his place when he withdraws from a business? When and how should an outsider be brought into the business?

2. *The Development and Retention of Non-Family Management.* How do you develop non-family members? How do you keep strong non-family members from leaving?

3. *Conflicts of Family Interests.* How do you minimize family conflicts? How do you treat minority members of the family and use them effectively?

4. *Compensation in Family Companies.* What should be done about compensating family and non-family members? Can stock be used as a compensation device?

5. *Growth of the Family Business.* What must the owner-manager expect with growth, or when the company "goes public," or when his firm is acquired by another?

THE PROBLEM OF SUCCESSION

Succession of leadership is perhaps the foremost problem in the family business—both from the point of view of the family and the well-being of the business itself. Here family loyalties come squarely up against profit requirements—and one or the other has to give way. Succession problems exist in many forms, but the most typical is that of the father who hopes to pass on the business to a son. How can a full transfer of authority be accomplished without jeopardizing the business?

There is no "canned" or easy answer. Each succession problem has to be evaluated in terms of the personalities and abilities of the respective father and son. Nevertheless, there are a number of ways *not* to handle the problem.

Some of the more painful succession errors have been made when the son has been moved too fast. In one situation, for example, the president of a metals processing company placed his son on the board shortly after his graduation from college. The owner-president gave him responsibility for running a machining department at the same time. Thus, the son was placed in the awkward position of

sitting in on over-all policy matters as a board member and, at the same time, serving as a member of middle management. Unfortunately, he had not had the basic shop experience necessary to enable him to do a competent job of shop management. As a result, he was looked upon with suspicion and a lack of respect, and his acceptance as a future successor to his father was seriously injured.

In another instance, the president-to-be was made an assistant to the president (his father-in-law) while in his late twenties. College, graduate business school, and the army had not permitted him to acquire a significant amount of work experience. As assistant to the president, his job was primarily on special assignments. Through oversight, he was not given enough work to keep him busy. His job deteriorated to a point where he was simply looking over everyone's shoulder—and reporting back to his father-in-law. The result was obvious: He was considered the president's personal "gestapo" and was feared, mistrusted, and resented. Moreover, his own judgment and administrative capacity were untested. This pattern was hardly good grooming for succession.

These two situations point up some of the more common mistakes that fathers have made. They may be summarized as developing the successor too fast, starting him at too high a level, giving him too limited an apprenticeship, placing him in a "gestapo" position, and pushing him even when he is fundamentally unsuited to the expected task.

The latter situation is a particularly disquieting one. In a former major family company in the East, one man who represented the major bloc of family stock was the only apparent family candidate for president. When he was installed, however, he was clearly out of place as chief executive, and the business deteriorated to the extent that a merger was its only salvation.

On the other hand, succession can be wisely and successfully accomplished. In an industry that was characterized at one time by an unusual number of family companies, one of the more prominent leaders had a son who followed in his footsteps. The pattern of development was logical: First, the son worked outside of the father's company to gain his early experience. Second, he learned

(*Continued on page* 79)

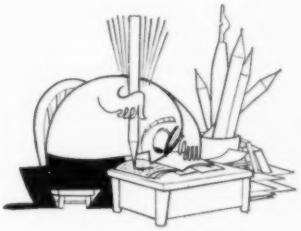
TAXING OBSERVATIONS . . .

Of all debts, men are least willing to pay the taxes.
—EMERSON

LOGICAL DEDUCTION

Supporting him in such resplendent
Style, I think I am
Entitled to a new dependent:
Uncle Sam.

—GEORGIE STARBUCK GALBRAITH



Men prefer any load of infamy, however great, to any pressure of taxation, however light.
—SYDNEY SMITH

Boni pastoris esse tondere pecus, non deglubere. (It is the part of the good shepherd to shear his flock, not flay it.)
—TIBERIUS CAESAR

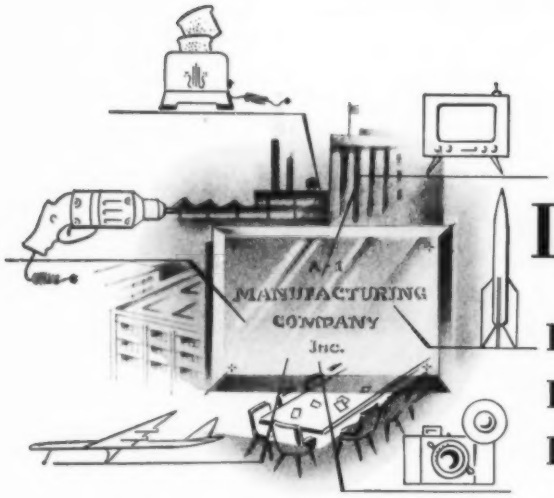
Misera contribua plebs. (The poor tax-paying masses.)
—QUEEN MARIA THERESA

DOLLARS AND CENSUS

I sometimes brood in a darkling mood,
A little bit anarchistic,
On how it is *my* tax dollar that
Enables some busy bureaucrat
To shrink me to a statistic!

—GEORGIE STARBUCK GALBRAITH

To tax and to please, no more than to love and to be wise, is not given to men.
—EDMUND BURKE



DEVELOPING A BALANCED PRODUCT PORTFOLIO

■ *Philip Marvin*

Manager, Research and Development Division
American Management Association

EVERY SECURITIES INVESTOR knows the importance of developing a balanced portfolio—one that has been planned and diversified to afford him the particular features of growth, income, and security that he happens to be seeking. In this time of rapidly advancing technology, many companies are becoming aware that it is equally important to plan their portfolio of products—both to capitalize on profitable old products and to seize the opportunities presented by new ones.

Today, management is investing more money in product research and development than ever before—but the stakes are far higher than the amounts actually invested. The stakes for the individual company are its over-all profitability and, in many cases, its very survival. Small wonder, then, that more and more companies are scrutinizing their product portfolios with a view to sound planning and optimum balance.

The increasing technological complexity of the contemporary industrial scene and the growing intensity of competition make it imperative that those who are responsible for developing the company's products also assume responsibility for maintaining the product portfolio in a sound and profitable position.

A PLAN OF ATTACK

Managers responsible for a company's product program frequently find themselves groping for a starting point. One executive admitted that he had been criticized for concentrating on products that were troublemakers, rather than on those that were profit producers. This is typical of the misplaced emphasis that we find in many companies: in filling the role of trouble-shooter, managers sometimes fail to provide the type of leadership and direction to product programing that prevents problems from arising by eliminating them at their source.

Such errors of judgment are all too common. The only sure way to know where to concentrate the company's efforts is to conduct a continuing analysis of the company's product portfolio.

The basic ingredient in the success of any undertaking is a well-organized plan of attack. To reveal the strong and weak points of the company's product mix, the performance of each product line must be examined separately. Each product must not only be able to be produced economically, but it must perform satisfactorily —and this means that it must do the job expected by the customer and meet the distribution, installation, and service requirements throughout the life of the product.

PRODUCT-LINE ANALYSIS

An income analysis of each product line, indicating both sales and profits, will reveal whether the line is a profit producer or a profit reducer. Sometimes one or two products will provide the bulk of the profits, while the others will produce negligible returns or even show losses. Favorable or unfavorable returns from a product line over a significant period of time reflect the degree of balance that has been achieved among the products that make up that line.

At any given time, low returns in a particular line may be due to the introduction of new products to strengthen the line. At other

times, poor returns may be attributable to one or two products that have become obsolete but are being carried until replacements can be developed. Such circumstances may justify a low return on invested capital. (Unusually high returns, of course, may be attributable to equally transitory factors.)

The income analysis will indicate where efforts should be concentrated to improve the over-all profit position by showing how company resources can be deployed in the most profitable manner.

It is also important to scrutinize the entire product spectrum, starting at the beginning of the product cycle by appraising the creation of product ideas and the design of the products themselves. Each product, those in production as well as those in development and predevelopment phases, should be positioned with respect to the point it occupies in its own life cycle.

The composite picture will reveal the degree to which the company is meeting its profit objectives at present and how well it is protecting its future earnings by insuring a continuing supply of new products to replace those becoming obsolete.

THE PRODUCT'S LIFE CYCLE

There are ten distinct phases in the life cycle of a product, and each is important to the product program. One of the important indicators of a soundly planned product portfolio is the presence of one or more products in each phase.

1. The Introduction Phase

In the introduction phase of their life cycle are those new products that are being placed on the market for the first time. It is obvious that new products are introduced into the line to increase sales and profits and to replace products that are dropping out of the product portfolio, but an analysis of the reasons for introducing new products should be much more specific than these generalizations. Soundly planned programs should include products that offer each of the following competitive advantages: lower cost, restyling, improved performance, new markets, and new uses. Of course, these five major competitive opportunities inevitably overlap, but this is not a serious problem; it forces product planners to stretch their imaginations, and the results can only be for the good. Many

products can be used for more than one purpose, and exploitation of these new uses increases sales.

These five major competitive opportunities are important, not only in planning new products, but in auditing product programs once they are underway. They stimulate thinking in the planning stage by calling attention to the full spectrum of opportunities that are open, and they also provide a framework for measuring the effectiveness of product offerings in accomplishing specific end purposes.

Products in this category should not be expected to show a profit; this is inherently a market-development phase.

2. *The Growth Phase*

As soon as it is clearly indicated that a product has the ability to capture market acceptance and to increase in sales volume, it should be classified in the growth phase. This is, of course, the phase that captured the interest and excitement of everyone in the business—the time in which new products begin to justify the work and effort that has gone into their development and to return profits to the company.

3. *The Competitive Phase*

In most companies, the bulk of the product effort falls into the competitive phase. The products in this category are well established in what has proved to be an attractive market, and other companies in the industry have similar product offerings. Prices and profits have reached rather well-defined upper limits, as opportunities for exploiting or expanding the market become more difficult and opportunities for reducing costs through greater volume are curtailed. In the competitive phase, a product normally reflects a growth in volume and profits, followed by a leveling off and some mild decline.

4. *The Obsolescence Phase*

Products have passed from the competitive phase of their life cycle into the obsolescence phase when a pronounced downward trend in sales volume is clearly indicated. As soon as it becomes evident that all available resources that can be used to maintain

healthy sales have been exhausted, it should be recognized that the forces of obsolescence have taken control of the situation. This does not mean that there are no further profit opportunities inherent in the product; profitable sales may be enjoyed for a considerable period of time after the product is classified in the obsolescence phase.

5. The Drop-Out Phase

Dropping products from the line calls for careful planning. Dropping an unprofitable product may have far-reaching effects on the sales of other products. Certain items, because they round out a total product line, should be carried until replacement items can be introduced. When a product reaches the point in its life cycle where a definite drop-out date can be set, it should be classified in the drop-out stage. This date may be 30 or 60 days in the future; it may be months ahead. At this time, not only should the selling organization prepare dealers and distributors for the discontinuance of those items, but those responsible for the product portfolio should schedule replacement items to be available prior to the drop-out dates.

PRE-MARKET PHASES

Up to this point, the five phases in the product life cycle have been those in which the product is offered for sale. There is a second group of categories that concern the pre-market phases of the product's life cycle, and these are equally important to the long-range position of the company.

1. The Prospective Phase

Each proposal for a new product falls in the prospective phase until it can be appraised. The product ideas in the prospective phase form a stockpile that is part of the continuing process of finding, screening, and appraising new ideas. Unless the hopper of new ideas is full at all times, the screening and appraising functions grind to a halt for lack of raw material—and, once halted, it is hard to get them going again. A healthy stockpile of unappraised ideas is a sign of a vigorous product-development program.

There should be prospective product proposals in each of the

five classifications of competitive opportunity listed under the introduction phase. Unfilled classifications may reveal a lack of action on the part of those who are responsible for developing new ideas for new products.

2. *The Speculative Phase*

In the process of evaluating product proposals, a preliminary screening eliminates those of little or no value to the company. Those remaining should be classified as speculative and subjected to more intensive analysis to determine the magnitude of their value to the company.

3. *The Potentially Profitable Phase*

Ideas that are appraised as potential profit producers should be placed with other proposals waiting their turn on the development schedule. Placing them in a special category calls attention to the fact that they haven't been assigned a place on the development group's schedule. Good ideas, ones on which time and money has been spent for assessing their value, have failed to get into development schedules as a result of neglect and oversight. Moreover, they are prime targets for competitors on the prowl for new ideas. Positioning them in a special category reduces this risk.

There is no good excuse for a backlog of unscheduled projects. Even though it may not be feasible to commence work on a project for several years, it should be scheduled. This calls management's attention to the need for remedial action to relieve the backlog of scheduled projects.

4. *The Scheduled Phase*

Actual scheduling comes next. Projects awaiting development are often a sign of management's vigor in promoting new-product programs. On the other hand, too many projects on the docket may indicate organizational weaknesses, such as inadequate development appropriations or insufficient staff.

5. *The Development Phase*

This is the phase in which ideas are turned into commercially feasible products. Everything that must be done to produce a sal-

able product takes place in this phase. Known facts are applied in developing the product; research is undertaken to supply new understanding and to enhance its development. The development phase should encompass the physical sciences, economics, and a fundamental knowledge of customer motivation if a complete job is to be done. Products leaving the development phase should be ready for sale in every respect.

BALANCING THE PRODUCT PORTFOLIO

Ideas and information are the raw materials fed into the development process; salable merchandise is the end product. Between the ideas and the end product, the success of the business is largely determined.

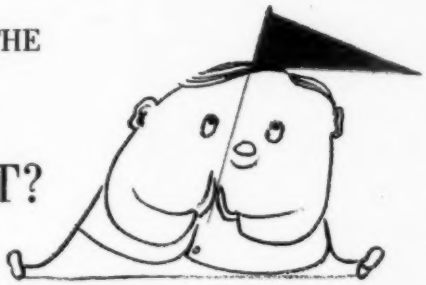
Underlying any successful program of corporate growth and expansion is a recognition of the importance of the product mix. As the chief executive of one of today's most successful growth companies has said, "In our experience, only certain firms have a clear-cut philosophy concerning new-product development, and have clearly defined objectives and clearly assigned responsibilities. Others have little idea of how to undertake development programs."

Positioning individual products properly in analyzing the product portfolio does more to reveal existing needs than any other single step that can be taken. A business exists to sell a product or service, but all too often this salable commodity is slighted once a business gets going—and this is the cause of many of the problems that harass management.

Only by getting back to an unemotional appraisal of the product portfolio is it possible to penetrate the interlacing complexity of personal interests, empire building, and meaningless motions that are the camp-followers of growth and success.

When management sets its sights on the balance of its product mix, it is focusing its attention on the fundamental reason for the company's existence—and the basic source of the company's profits. An analysis of the product portfolio is vitally important—both in determining the actual position of the company on today's business scene and in planning for growth and profits in the years to come. ♦

HOW DANGEROUS IS THE BUSINESS BUREAUCRAT?



By Eugene E. Jennings

Condensed from Nation's Business

THE CHANT is growing louder that the enterprising spirit in business is being replaced by the cautious spirit of the bureaucrat. Two top British management experts, Lyndall Urwick and C. Northcote Parkinson, have been saying that the "civil service mentality" is rapidly spreading among business executives. Business firms, they maintain, are becoming top-heavy with paper shuffling, empire building, and evasion of individual decision-making responsibilities.

The question is whether business can remain dynamic if its executives become less and less interested in bold action and more concerned with avoiding risk and perpetuating their jobs. To answer that question, we must know what bureaucracy is, how it affects management, how it differs from other kinds of executive thinking, and what are its major dangers.

It is widely believed that business bureaucracy develops because the size and the complexity of corporate enterprises require highly precise and predictable relationships. Organizational principles and procedures become worked out to the minutest detail. The result is a system which constrains each member to act in ways that further the rational pursuit of organizational goals, regardless of how irrational they appear to the individual himself.

One important basis of our antagonism to bureaucracy is its impersonality. This impersonality can be seen clearly by placing the bureaucrat alongside his two chief peers in business, the autocrat and the democrat.

The autocrat attempts to make himself the key to all group action. He wants his subordinates to act individually and only through him. Communication is kept to the minimum of administrative necessity except insofar as it is through him and focused upon him. Because he is the focus of all action, he believes in becoming a well-developed generalist, capable of coping with many and diverse situations.

The democratic executive is in some respects the direct opposite. He attempts to knit his group into a

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harmonious team so that the ensuing cohesion disguises who actually is running things. Rather than making himself indispensable, his primary aim is to develop his subordinates. He seeks thereby to involve every member in determining group activities and objectives. Instead of developing in himself a complete competency, he is more interested in developing that complete competency in the group as a whole.

The bureaucrat does not recognize the individual or the group as much as he does the organization. He is a system builder and places his faith in the ultimate perfectibility of systems. Highly creative and spontaneous individuals are anathema to him because of their essential unpredictability. The bureaucrat tends to be suspicious of those who think they can operate successfully outside of a carefully planned system of intricate but highly efficient human relationships. His compulsion for routine and for standardization of the individual's contribution represents his way of making sense out of an otherwise intolerably ambiguous set of organizational processes.

Both autocrats and bureaucrats view democrats as unproductive and inefficient, while democrats view autocrats and bureaucrats as insensitive to human values. Autocrats and democrats alike are today indicting bureaucracy as anonymous tyranny. However, all three types can be potentially despotic if there is an excessive amount of the autocrat's personal domination, the majority's arbitrary will, or the bureaucrat's slavish subservience to his system.

The failure of bureaucrats to be creative and spontaneous does not mean that they are not hard working, honest, and reasonably alert. The bureaucrat may have these virtues, but his sole concern with efficiency makes his personality seem stunted and his intellect wastefully spent.

The danger of bureaucracy is not simply that it stifles the creative virtues of the autocrat, but also that it cannot easily improve itself. Change usually means more bureaucracy but not better bureaucracy.

The bureaucrat dares not be a man of action. He is usually ultra-conservative, and rarely a party to radical changes. The way he operates is analogous to the experiment in physiology whereby a frog can be unknowingly boiled alive by gradually and imperceptibly raising the temperature of the water. What makes bureaucracy dangerous is its subtlety. It is not a cataclysmic eruption, but a petrification which is determined by how many rules are instituted without conscious awareness of their presence.

Executives have been known to sneer at charges of bureaucratic mesmerization, while at the same time they themselves show preoccupation with trivia. For many of them the awareness does not come until they reach top policy-making positions. Then they realize how severely diminished have become the intellectual and emotional qualities they need for the formulation of broad-gauged objectives and programs. They cannot become superior to the system when they most desperately need to be.

Criticism of bureaucracy will no doubt bring new panaceas. The most recent of panaceas—decentralization

of authority and decision-making—is aimed at restoring executive initiative in the face of growing bureaucratic conservatism.

Although decentralization has not been given a thorough test, it is already apparent that top management must continue to control decision-making by subordinates. Experience shows that, whereas some degree of initiative has been restored, this has required so many countercontrols, rules, and procedures in the form of reports, communication, and briefings that, for all practical purposes, the executive is worse off than he was. Business is learning that, in a system already steeped in bureaucracy, subdivision enhances bureaucracy more than it helps to develop individual initiative.

However, bureaucracy can only be given part of the blame. Decentralization and perhaps many of the future programs that will be equally concerned with restoring executive initiative fail because the men given the additional authority do not have the competence and confidence to execute that responsibility. For this reason, decentralization has been followed by recentralization above and the mushrooming of numerous bureaucrats below.

Many critics of bureaucracy fear that business enterprise will cease to grow. But this charge is not yet justified. The fact is that bureaucracy has made possible further and more rationally planned growth. It is a major reason why businessmen today feel optimistically that there is, after all, no limit to the size that an enterprise can feasibly reach.

But this faith in the unlimited scale of enterprise has not been matched by an equal faith in the potential growth of the individual. This attitude, if not checked, may become lethal. Nothing is more typically bureaucratic than lack of faith in the individual's potential capacity to comprehend the essence of a vastly growing enterprise. This diminished conception of the executive as an individual may be one of our gravest misjudgments.

To be sure, modern business must be guided to a large extent by bureaucratic experts. For this reason business should strategically develop bureaucracy. But in making room for bureaucrats, business must not become engulfed by them. ♦

INDECISION IS DEBILITATING; it feeds upon itself; it is, one might almost say, habit-forming. Not only that, but it is contagious; it transmits itself to others. . . . Business is dependent upon action. It cannot go forward by hesitation. Those in executive positions must fortify themselves with facts and accept responsibility for decisions based upon them. Often greater risk is involved in postponement than in making a wrong decision.

—H. A. Hopf

MINIATURIZATION:

BIG PROFITS from SMALL PRODUCTS

By Melvin Mandell

Condensed from Dun's Review and Modern Industry

A FEW YEARS AGO, a 15-year-old hearing-aid manufacturing concern marketed a new hearing aid built of tiny parts assembled in hollow eyeglass frames. In the five years since the new "miniaturized" product was introduced, sales have shot up 1,200 per cent—and every important competitor has copied the idea.

Another manufacturer of lilliputian products—mechanical equipment in this case—states that a "miniature" product justifies up to a 10 per cent advance in price over the standard-size version, that a "subminiature" version (the next step down in this new art of shrinking) calls for a 25-50 per cent increase, and that the "microminiature" model (you handle it with tweezers) sells for as much as 100 per cent more than the standard model.

Right now the greatest quality markets are in the aircraft and missile industries, with substantial sales volume in the computer, automation, and instrumentation fields, medicine, and the telephone companies. But the real high-volume, higher-profit market is based on the growing public demand for tiny gadgets of portable products that require miniature parts. Small transistor radios, for example, are the radio manufacturers' sales leader. The "portable" TV set, which owes its lighter weight and much of its compactness to miniature parts, has given needed support to sales in the TV receiver industry.

Although it has been practiced most widely and spectacularly in the electronics industry, miniaturization of mechanical as well as electrical parts is getting a foothold in almost every segment of manufacturing. For instance, the Clippard Instrument Laboratory, Inc., Cincinnati, has recently introduced a line of miniature air cylinders, valves, manifolds, and associated accessories that help keep the size of automation equipment in bounds.

There's nothing exactly revolutionary about the idea of miniaturization—for generations, to take one obvious example, watchmakers have been assembling mechanisms nearly microscopic in scale. But today, for the first time, a great variety of tiny interchangeable industrial building blocks are being mass-produced. And the accuracies achieved in even the most inexpensive miniature parts are usually far higher than those in the most expensive timepieces.

For its full benefits to be realized,

the miniaturization concept must be applied across the board. There's no point in building a miniature motor, for instance, if its reducing gears are standard size. This situation offers a golden opportunity for the manufacturer who wants to get into the miniaturization business. All he has to do is find some part—resistor, gear, linkage, valve—that is not shrinking as fast as its related parts, and make it in an economic miniature version. This approach is a lot easier than trying to produce a complete miniaturized piece of equipment. Selling to a small number of original equipment manufacturers should be simpler than attempting to open up a new final consumer market.

To get an idea of what it takes to mass-produce miniature parts, look at one of the many plants in this business, Miniature Precision Bearings, Inc., Keene, N.H.

The first problem is encountered right at the raw materials receiving dock. Since a day's production fits into a hat, not much is required in the way of raw materials. Suppliers must be found who will produce and ship special steels and other materials by the pound rather than by the ton.

Early Monday morning, hours before the beginning of the work week, all production machines in the plant are started up—it takes that long for them to settle down to the high accuracy needed. Once the machines are started, they run continuously until Saturday night—this plant runs three shifts. An amazingly high proportion of the workers are inspectors operating costly measuring instruments.

The entire plant is air conditioned and kept extraordinarily clean, and finished bearings are assembled under microscopes in specially sealed rooms whose temperature and humidity never vary. Specially filtered air is pumped in under slight pressure so that, when the airlock doors are opened, the clean air flowing out prevents any dust-laden air from coming in. No smoking is allowed, and all workers wear lint-free uniforms and hats. Before the bearings leave the room, they are sealed in dust-tight plastic containers.

The MPB plant illustrates practically all the production problems that are associated with miniaturization:

- It takes a long time to get a production line for miniatures running smoothly, longer than for conventional products.
- Production savvy is essential.
- Capital investment is high.
- Costly air conditioning is usually necessary, although not all the plant has to meet the critical environmental conditions of the final assembly rooms.
- Although a critical component is readily available in conventional sizes, suppliers may not be able to meet requirements for size, weight, performance, accuracy, or delivery for the miniature version. Thus, the manufacturer may be forced to make it himself.
- It may be necessary to build all or a substantial part of the production machinery, at the usual high cost of nonstandard machinery.
- Inspection and quality control costs are very high, averaging 20 per cent of manufacturing costs, but frequently running a good deal higher.

• Miniature production lines are extremely difficult to automate. Workers are still needed, and they must be carefully selected, trained, and to some extent pampered. Some manufacturers pay a premium wage to workers in miniaturization lines.

• There is no handy pool of miniaturization engineers and production supervisors from which to draw. Practically all companies in the field at present have trained their own.

• Customers frequently need special training or instruction in the handling of miniature parts.

On the other hand, there are some compensating factors:

• Shipping costs and damage go down, and transportation becomes a lesser factor in plant location.

• The value of some old multistory, low-ceilinged, close-columned, low-floor-strength factories goes up. These plants, no longer economical for the new, bigger machinery making normal-size products, may be very suitable for a miniature parts assembly line.

• In addition to lower operating costs and ancillary capital savings, salesmen can bear down hard on the increased reliability and ease of servicing associated with most miniature equipment.

Miniaturization, so inextricably tied into today's main industrial forces, is one of tomorrow's profit frontiers. For the company looking to break into new markets or industries or beat out its present competitors, it may offer promising opportunities. With the overwhelming force of modern technology on your side, it's a lot easier to sell and hold on to new customers. ♦

"Keep an eye on that new man—he looks like a troublemaker."

UNION CAPITAL GOES TO WALL STREET

By Nathan Belfer

Condensed from Challenge

WITH ASSETS of $2 billion, trade unions are big business—and they're beginning to act the part. Until recently, the unions did not use their funds to participate seriously in the nation's industrial development. Six years ago, 85 per cent of union holdings were in cash and government bonds. Most of the remainder was in real estate, mortgages, and savings accounts, while less than 2 per cent was invested in common stocks.

The situation has changed markedly in the past two years. The well-managed Retirement, Health, and Welfare Funds of the International Ladies' Garment Workers' Union, with assets of $210 million, kept all their investments in government bonds until a few years ago. The union has since begun purchasing Veterans Administration and FHA mortgages. More significantly, the union's general executive board recently authorized the investment of 5 to 8 per cent of the funds, about $17 million, in corporate bonds. The ILGWU is now emphasizing the growth feature of its investments. In 1957, receipts of its social funds amounted to $71 million against disbursements of $49 million—providing a $22 million surplus for new investment.

The International Brotherhood of Electrical Workers has more than $50 million of its pension and life insurance reserves invested in VA and FHA mortgages. The United Mine Workers has bought control of two banks in Washington, D.C.

Other unions are similarly investing in VA and FHA mortgages and making modest incursions into the stock market. The National Brotherhood of Operative Potters, a small organization of 25,000 members, has actually put 70 per cent of its assets in common and preferred stocks.

The unions persist in being conservative investors, but they are no longer restricting themselves to government bonds. What has caused this change, and what significance does it have for union members, corporations, and the public?

Inflation is the biggest factor behind the change. The low yields of safe bonds were insufficient to compensate for their loss of value in relation to the inflated cost of goods. The higher yields of 4 per cent from mortgages and corporate bonds were tempting. One and one-half per cent more in yield on reserves of $100 million means an increase of $1.5 million in annual investment income. Actuaries estimate that 1 per cent increase in the yield of pension fund assets would raise benefit payments 25 to 30 per cent.

"Safe" bonds, moreover, are not completely safe. A period of changing interest rates can cause a considerable decline in bond prices.

Unions reacted slowly and painfully to the necessities of the changing situation. They had to alter fundamental attitudes about risk and safety. President David Dubinsky of the ILGWU was careful to point out that his union's policy change was not dictated by a desire for speculative profit but was an essentially defensive action.

Unions have also recognized the need for professional fund management. Many retain banks and investment firms as advisers, or they actually hire investment personnel. In his two years with the union, the ILGWU's finance expert has already achieved a substantial yield increase on its holdings.

The effects of these new union policies extend well beyond benefit increases for retired workers. If unions buy stock in companies with which they have bargaining agreements, their ownership position could work a transformation in industrial relations. Unions could become a strong management factor as well, but the possibility of a truly dominant role for them seems remote. While union assets are considerable, they are small in comparison with those of the larger corporations. It is doubtful, anyway, that the unions would follow such a policy even if they could. Unions have preferred to avoid the responsibilities of managerial decision-making.

Exceptions have occurred. The International Brotherhood of Teamsters invested in Montgomery Ward and Fruehauf Trailer, and promptly took sides in battles for control that were going on in those firms. Other unions may discover that their distaste for such struggles may not be enough; they might be forced to use their voting power in given management situations in order to protect their investments. Proxy fights, for example, create circumstances where nonintervention itself becomes a decision on management policy level, even if it is a negative one.

Union funds have had a negligible impact on the capital market. They have made more money available for housing and business in general through their mortgage and corporate bond purchases. But restrictions on the purchase of common stocks will reduce the effect on the stock market; other financial intermediaries like the insurance companies and savings banks have more money and less official inhibition in buying common stock. These nonunion funds will add to the institutional supports for the stock market in a magnitude the unions will never reach. ♦

Not only will tomorrow's computers be 20 to 100 times faster than today's models, but they will schedule and direct their own operations . . .

The Next Generation of Computers

By George A. W. Boehm

Condensed from Fortune

THE NEW COMPUTERS will be 20 to 100 times faster than today's million-dollar machines. Their layouts are so elaborate that a computer is needed to design them. Their timing will be so exquisite that electronic pulses surging through wires at nearly the speed of light may occasionally be too sluggish for them. And they will be expensive. The first of the new machines, due to be completed this year and next, will cost about $3 million apiece, almost twice as much as the biggest computers now in existence. But at that price their immense capacity for work makes them truly bargains, and their complexity paradoxically makes them comparatively easy to operate.

There are innovations aplenty in the new machines—e.g., faster-acting circuits that employ transistors and more novel components. But the major difference between the new generation of computers and their predecessors is the principle of parallel operation. The parallel computers, as the designers call them, are really two or three big computers harnessed together and working as a battery.

Happily, the designers are making it possible for the new machines to program their own operations in large measure, for a human operator would be overwhelmed by the job of keeping track of the interplay of the various units in order to schedule the work step by step. With several operations going on simultaneously, the program will have to determine not only what the computer is to do but precisely when it must do it. The machines will direct their own traffic of information. All the human programer can be expected to do is indicate roughly the logical sequence of operations.

With automatic programing, moreover, the computers can act on relatively simple instructions. A man with a problem to solve will be able to order the computer to get at it in a language much like ordinary English, and he will get back his answer without having to know what went on inside the machine.

The new computers are arriving at

Fortune (March, 1959), © *1959 by Time, Inc.*

an opportune time. There are now in the U.S. some 400 computers in the million-dollar-and-up class, and the number has been doubling roughly every year. But there is a ceiling on the demand for today's big computers, because the solutions to many of the problems that scientists, engineers, and businessmen want to put to the machines take too long and therefore cost too much at present-day computer speeds.

The parallel computers will eventually translate languages, notably Russian, faster and cheaper than a human can. For nuclear physicists they will determine with precision the behavior of particles. They will help the military and businessmen reach more logical decisions.

But even before the first of the new computers has been completed, research scientists are looking far ahead, to other generations of machines that will imitate human thought processes—computers that will employ judgment and a kind of intuition to solve problems. Some day, conceivably, probably more than a century from now, scientists will build a machine much faster and more compact than the human brain—and almost as versatile.

Heretofore, computers have been able to handle only one operation at a time. Some parts of the machines have inevitably been idle at any given time. Arithmetic units, for example, have had to pause for as long as several seconds while input units searched for data in reels of magnetic tape. It has never been practical to store all the data in magnetic cores and other fast-acting memory components, from which information can be retrieved in about a millionth of a second, because the components are too expensive: they cost about $1 per "bit" of information.

In the new computers, waiting time will be cut to a minimum. The scheme of the National Bureau of Standards' Pilot is typical. A primary computer will do most of the arithmetical calculations. A smaller secondary computer will act as traffic cop, keeping track of various parts of the program, and occasionally helping calculate parts of the problem. Meanwhile, a third computer will control incoming and outgoing data. It will anticipate what information the primary computer will need, search for it through several reels of magnetic tape simultaneously, convert the data to usable form, and pass it on to the primary computer at just the right instant. Internal traffic jams will be solved in a small fraction of a second.

Pilot is to be finished this summer. Next year Remington Rand, a division of Sperry Rand Corp., will probably install Larc (for Livermore advanced research computer) at the University of California's Livermore radiation laboratory. Both machines will be just about 20 times as fast as the IBM 709, one of the best of today's scientific computers. Stretch, an IBM computer destined for the Los Alamos Scientific Laboratory, will be even faster when it is completed in 1960.

Most designers feel that in the new computers they will have pushed the speed of components close to a practical limit. Coded information will race through the machines at the rate

of two million or more pulses per second, each one timed to within a few hundred-millionths of a second.

There is already a long list of problems waiting for the new computers. They will be able to solve most of these with standard mathematical methods, although mathematicians will in the next few years very likely develop new methods to exploit the speed of the new machines.

Some kinds of problems that mathematicians have been solving by techniques developed especially for computers have outgrown the speed and capacity of present-day machines. A typical example is linear programing, which some companies use to plan product distribution, manufacturing schedules, and other complex business operations. A linear program consists of a great many statements concerning the interrelationships of various factors that have to be considered in reaching a decision. A sample statement: "Selling price is greater than manufacturing cost plus sales commission." These statements are all expressed symbolically as a rectangular array of numbers called a "matrix." By manipulating the matrix, a mathematician can arrive at optimal plans—e.g., a plan that maximizes profit, or one that minimizes time. In their exploration of linear programing, mathematicians have encountered many real-life situations—such as the operation of an oil refinery—that require matrices as big as 200 rows by 1,000 columns. Manipulating such an enormous matrix requires $2 \times 200 \times 200 \times 1{,}000$, or 80 million, separate multiplications—a job worthy of the new computers.

The new computers would have been impossible without the invention of automatic programing, which has immeasurably increased the usefulness of present-day machines.

It has been said that a computer must be instructed as painstakingly as if one were addressing an idiot child. Only the simplest "knowledge" is built into a computer. When a programer wants to make a machine multiply two numbers, for example, he must furnish the plan. He must write out in code the memory locations of each number, an instruction to multiply, and a memory location in which the result is to be stored.

Programers for the parallel computers will probably never have to write machine code. Instead, they will use "compilers." First suggested by Grace Murray Hopper, who heads Remington Rand's automatic-programing development, compilers are magnetic tapes on which are coded most of the common mathematical routines plus a master tape that instructs the computer how to put together various combinations of the routines.

To the operator of a computer, a compiler provides a special language for writing out orders to the machine. Almost anyone can read the language after a little practice, for it is based on ordinary English and mathematical notation. The time will come when clerical workers with a little special training will probably do most of the programing for day-to-day computer problems. ♦

...almost anything!

By James Mac Donald

Condensed from The Wall Street Journal

A BUSY COMPANY in San Francisco counts among its equipment such strangely assorted items as 50,000 metal beer kegs, three $100,000 tug boats, a $300,000 aluminum extrusion press, and 50 hotel soap racks worth about $5 each.

Stranger still, perhaps, the company will never use any of this equipment. It's all being used by customers of the company: United States Leasing Corp., one of a growing number of firms that make their money by purchasing capital goods and renting them to other companies.

Leasing capital equipment isn't completely new, of course. A number of manufacturers, such as International Business Machines Corp., for years have leased much or all of their equipment to customers. But leasing in recent years has been growing swiftly—so swiftly that at least a dozen companies have sprung up which now do nothing else. Most of them were born during the past five years.

While there are no over-all leasing statistics available, D. P. Boothe, Jr., president of Boothe Leasing Co. in San Francisco, estimates that a total of about $1.5 billion worth of capital equipment was leased for use by business during 1958—better than triple his estimate of about $450 million for as recent a year as 1953.

"Leasing is growing at a fantastic rate," declares Mr. Boothe. "And it shows promise of growing at an even faster rate in the years ahead."

Why are more and more companies turning to leasing rather than purchasing? For one thing, some companies just can't spare the cash to buy equipment outright. Others figure their money could be more profitably invested elsewhere, even though the lease deal in the long run usually will cost them more than an outright purchase. Many firms lease because they don't want to borrow the purchase price; they need their credit line for more pressing requirements. And some busy executives just don't

want to have their time eaten up by the details of upkeep and administration of equipment.

In 1952 — its first year — the United States Leasing Corp. had a staff of ten and total rentals receivable of $263,000. (Rentals receivable represent the total amount due the company on existing leases.) At the close of 1958, the firm had rentals receivable of nearly $29 million and employed 75 persons, almost all clerical.

Several big manufacturing companies use leasing as a sales tool. Last year, General Electric Co. made an agreement with National Equipment Leasing Corp. in Pittsburgh to offer GE's 25-ton to 100-ton diesel locomotives—used for switching work around steel mills, power plants, and in mines—through lease deals. Under the leasing setup, GE offers to take the order from the customer and sell the locomotive to National Leasing, which then makes the rental deal with the customer.

One big advantage of leasing, claim the lessors, is that it produces much less of a drain on a firm's resources. Last December, for example, Textron Industries, Inc., a subsidiary of giant Textron, Inc., wanted about $350,000 worth of new machine tools for its Rockford, Ill., Camcar Screw & Manufacturing division. Rather than buying the tools from the manufacturer in Massachusetts, however, a Textron official picked up the phone and called Boothe Leasing Co. in San Francisco. Boothe borrowed the money from a bank, purchased the equipment, and installed it at the Rockford plant.

"The main reason we leased rather than purchased the tools," explains D. L. Grote, Textron controller, "was to conserve working capital for other corporate purposes."

Textron paid only $30,000 on delivery—the first six months' rent on the machinery, equal to about 8.5 per cent of the total cost. Mr. Grote figures that if the company had purchased the equipment on the installment plan, the manufacturer probably would have required a down payment of 25 per cent—some $87,000.

Not only are such leases increasing in number, but the size of the transactions is getting bigger, too. Leases involving $3 million or $4 million now are fairly commonplace. Utah Construction Co., San Francisco, recently signed a 15-year lease agreement with Boothe Leasing for a custom-built sea-going dredge worth roughly $4 million. The construction company plans to use the dredge for such tasks as channel clearance and land reclamation anywhere in the world.

Leasing companies are quick to admit that equipment leasing isn't the best plan for all companies. "For one thing," explains W. L. Hudson, president of U.S. Leasing, "leasing a piece of equipment is going to wind up costing a company more in the long run than if they had bought the equipment in the first place. That just naturally follows, because we expect to make a profit on the deal."

Then, too, under a lease setup a company must make fixed payments at regular intervals. In a period of sagging profits, this may put a severe strain on its cash. In addition, a company that's hard-pressed for cash usually can borrow money on equipment

it owns—something it obviously can't do on rented equipment.

Normally, the term of the lease contract is closely related to the useful life of the equipment—usually about 75 per cent to 80 per cent of the useful life. There are, however, other factors that might determine the length of the lease. For example, a company that gets a big defense contract requiring some expensive new machinery may want to lease rather than buy the equipment, since there may be no further use for it after the contract is completed. In such circumstances, the lease often is for the specific contract period.

"In these cases," explains Henry Schoenfeld, vice president of United States Leasing Corp., "rental payments normally are set at a higher rate—especially when the defense contract is of short duration—so we can get a substantial portion of the purchase price back."

In some fields, such as the fast-moving electronics business, lease terms may be set for a relatively short initial period to protect the lessee against the dangers of technical obsolescence. Sylvania Electric Products, for example, leases a good portion of the electronic testing equipment in its Mt. View, Calif., research laboratory. The length of the lease agreements normally is about three years, a Sylvania spokesman says. "Since new and better methods of testing are being developed at a rapid rate, we certainly don't want a lot of outdated equipment on hand," he explains. "In any case, we can always keep the machines by renewing the lease or purchasing the equipment."

Once the lessor regains possession of the equipment, it's up to him to profitably dispose of it. Because the leasing companies expect to derive a large part of their profits from the later sale of equipment, current profits in most cases seem small in relation to the volume of business the companies are handling. For example, Boothe Leasing, with $7.7 million in rentals receivable on its books at the beginning of 1957, earned a net profit of only $18,883 in that year, the latest for which figures are available. United States Leasing Corp. says that it may soon try to charge higher rentals, so that a bigger share of profits will come from rental payments. ♦

TODAY'S U.S. CITY DWELLER is almost as healthy as his country cousin, according to the Health Information Foundation. Back in 1901, a resident of New York City could expect to live seven years less than the average for the whole country. Today, however, the average New Yorker has practically the same life expectancy as the rest of the population. The city dweller's improved health, says the Foundation, is due to medical advances and a higher standard of living, which have eliminated the plagues and epidemics which once took a heavy toll of city populations.

—*Advertiser's Digest*

Section 7 of the Clayton Act may force management to re-examine many of its policies and plans . . .

WHAT THE ANTI-MERGER LAW MEANS TO BUSINESS

By Paul W. Cook, Jr.

Condensed from Harvard Business Review

FEW DEVELOPMENTS of the 1950's are likely to have a more specific, far-reaching impact on top-management planning than the revision of the anti-merger section of the Clayton Act. In marketing, procurement, and other areas, important changes in the "ground rules" of doing business have been made.

Basically, the problem is that though the law does prevent the problems which mergers may have caused in the past, it also prevents the use of mergers to solve business problems which might have been solved by this device in the past.

Product policy. It is highly unlikely, for example, that mergers can be used any more to increase the competitive effectiveness of a financially sound company—either by expanding the company's relative size in the market for a single product or by expanding the coverage of a product line. Similarly, expansion into new geographical regions by merger is likely to be illegal if there has been any overlap of selling areas in the past. Even a relatively small company cannot use the merger device to make its size and product line comparable to that of the major competitors in the field.

In view of this, an aggressive, expansion-minded management would be very wise to reconsider its corporate objectives—especially the desirability of diversifying the product line rather than concentrating more effort in areas now served.

Since mergers often provide a more profitable use of capital than internal investment, particularly when expansion involves building a new plant from the ground up, management might well find that businesses in other fields could benefit from its firm's particular talents. For example, a management that has a proven ability to solve difficult marketing problems might well find that it would do better to merge with a company in another business with a tough marketing problem than to try to capitalize on this long suit in its present business.

Pricing policy. It is generally recognized that the price of a product must permit a profit at least large enough to make expansion to meet increased demand attractive.

In the past, it has been possible for some companies in some industries to expand a plant up to its maximum potential under the existing price structure, and, if they

reached this point sooner than their competitors did, they would acquire a competitor's plant and similarly expand it. Consequently, all companies tended to be more or less in the same boat with respect to the costs of expanding capacity, with the high-cost firms being able to reduce their disadvantage by well-selected mergers. Now, however, it is entirely possible that companies in such industries will become more out of phase with each other. That is, some companies may expand to the point where further expansion would be uneconomic under the prevailing price structure, while others still have substantial ability to expand further at relatively low cost. But the former will not be able to "recapture" through merger the opportunity for further growth possessed by competitors that have not expanded so fast.

Most of us are familiar with the problems of forecasts that underestimate demand. The most common and unquestionably expensive consequence of such forecasts is building too small a plant. The new problem is that mergers, which in the past have been one method of meeting the problem, are no longer a possible solution.

The effect that this situation has on pricing will probably vary greatly from industry to industry. In some industries it will permit the companies that are fortunate enough to have expandable plants to entrench themselves to a greater extent in an expanding market. In other industries, prices might rise enough to justify the construction of new plants, which will mean that companies with expandable plants can take advantage of lower costs to gain substantially in earnings.

Whatever the case, it seems very likely that the law governing mergers will result in growing differences in the ability of companies to expand, which in turn will create a need for reappraisal of competitive objectives.

The stricter merger law may cause another problem: increasing price competition. The typical manufacturing industry now is characterized by a few major concerns that do a substantial portion of the business. One common consequence of this form of industry structure is that competition tends to take on many forms in addition to, and sometimes in lieu of, price competition.

Although our public policy characterizes this as a "bad" development, evidence suggests that, at least in some industries, mergers have actually cured competitive evils—i.e., they have prevented competitive practices from becoming so unruly and unstable as to impair the industry's performance.

The courts have tended to pass the problem of too severe and disorderly competition back to business, to be solved by intelligent and individual self-restraint. Whether this solution is adequate we do not know, but it is safe to say that it will someday be tested in many industries.

Customer-supplier relations. Section 7 of the Clayton Act is given extremely strict application in vertical acquisitions. Of course, the law permits acquisition of companies that are facing bankruptcy or the possibility of leaving the industry for some other reason, such as the death of a principal owner-manager. But even ac-

quisitions of this kind are not without their dangers. If a company that has acquired such companies later attempts to merge with a solvent company, it will find its past acquisition counted against it, whether the companies it acquired were facing bankruptcy or not.

Two little-used devices might well accomplish the goal of maintaining stable relationships while reducing the risk of antitrust violations. One would be to acquire a company threatened with failure and simultaneously to file an intention to divest the company as soon as its independence can be assured. The same device might also be employed to expand suppliers who are unable to meet their need for capital or management resources.

Another possible device is the use of joint ventures, particularly in the development of raw material sources. Many times companies that would be prohibited from merging in order to amass the capital required to exploit a new source of raw materials can participate in a joint venture for that purpose.

Are the new limits on merger activity simply another malicious interference by a hostile government with the rights of business and property? Does business as a whole gain anything from the law?

Certainly one benefit will be that companies having no real desire to merge will not be forced into merger activity in order to maintain their position vis-à-vis their more merger-minded competitors. Another effect is the increased safety from corporate raids. Section 7 has been used effectively in private suits to stop involuntary mergers.

A third possible benefit may accrue, even if slowly, in an improved public attitude toward business. Perhaps the whole climate in which business operates will be improved if it can be shown that no position a business henceforth reaches can be attributed to anything but competitive excellence. If so, this would be a strong argument for a more tolerant view of the forms, consequences, and on occasion, painful effects that vigorous competition may have. It would be a bargain if reduced freedom to merge could be traded for increased freedom to compete and increased freedom for natural market forces to work without complex and detailed regulation of competitive practices. ♦

THE EXECUTIVE who needs a secretary with a scientific background should know about "tec-secs." They are secretaries who have graduated from a special two-year course given in leading business schools that are members of the National Association & Council of Business Schools. The students receive a year of mathematics (including calculus), learn a special system of shorthand developed for engineering and scientific dictation, are taught the special techniques involved in statistical typing, and are generally prepared for working with scientists, engineers, and technical managers.

—*Steel*

—FROM BARKER TO BOARD MEMBER

Condensed from Newsweek

UBIQUITOUS and often invisible, maligned and often self-doubting, the public-relations men have woven themselves into the nation's economic, political, and social fabric. Private companies, associations, churches, unions, political parties, and celebrities thought enough of them to spend some $2 billion for their services last year, will spend even more this year. And the individual fees can run high: A big client may pay $100,000 or more a year for outside consulting services, plus the cost of its agency's staff time.

The huge and growing numbers of PR men (many of them ex-journalists) operate in the public-relations departments of 5,000 companies and in 1,250-odd outside PR agencies. Ten years ago, 10,000 people claimed the title of "public-relations counsel." Today, 100,000 populate the field, and the number swells yearly.

The scope and diversity of the PR "industry's" operations grows apace. Aiming to build up a client's prestige or associate the client's private objectives with the "public welfare," PR men may stage a seminar or a tour, have the company set up a scholarship fund or make an institutional film, or have someone award the company president a plaque.

Not that the press release is fading away. In Los Angeles, where press agents outnumber the press by seven to one, a national magazine bureau may get 50 to 80 releases in a single mail. And while many of the bigger PR agencies claim "publicity" accounts for only 5 to 10 per cent of their time, the nationwide flow of handouts never seems to abate, some bearing genuine news, others, bannered as NEWS—FOR IMMEDIATE RELEASE, bearing little more than the sweat of a PR man with nothing to say.

But the PR man is farthest removed from his primordial ancestry in circus barking and Broadway press agentry when he is "counseling." This is a two-way, high-level function that consists of (1) helping keep management informed of its standing with the public or with such special "publics" as the stockholders, the employees, or congressmen; (2) ad-

vising top management on the "public relations" implications of policy decisions.

Whichever way it's cut, the clients are buying it. "Internal" PR men who once took orders from the advertising director, personnel director, sales manager, and almost anyone else with a white collar have moved up in the executive hierarchy in recent years to the point where most can administer their own programs. (Probably a half of all business firms with PR programs do the whole job "internally.") Management itself is more and more willing to accept public relations as something besides lip service, and favorable management opinions are bolstered by the successful case histories that PR men will cite at the drop of a handout.

But the weaknesses are just as apparent. Most PR men agree that it is almost impossible to get an accurate reading of the impact of the average PR campaign or to separate the effects of PR from all the other forces that affect sales or shape the vague outlines of public "opinion" about a company. There is considerable confusion and disagreement about PR techniques and objectives themselves; in fact, it is hard to find two reputable PR agencies with the same approach.

The blunt fact is that nobody can say for sure what public relations is, and the public relations industry has been victimized by the very vagueness of its specialty. Writers have raised plaints about the perversion of truth and "hidden persuasion" that cast a stigma on the best and most honest PR men (i.e., the one who selects, but does not consciously distort, facts to make his client's case). The label "public relations" representative has been applied to everything from cemetery-lot salesmen to call girls. Part of the confusion is the fault of PR men themselves. While the industry has unquestionably grown up from its youthful days of stunts and whitewash, its childhood diseases have been replaced by more sophisticated ailments. The mobilization of "grass-roots opinion" for a private client by activating "citizens groups" to act as mouthpieces has brought some firms close to the ethical brink in the recent past.

Even worse is the epidemic of pseudoscientific gobbledygook and pontifical hooey—the inflated claims of the power and importance of public relations. There is serious doubt, for example, that government efforts to control business can be blamed entirely on "lack of understanding," or "poor public relations," as some PR men imply.

Yet the more PR men multiply (in 1957, the president of the American Public Relations Association estimated that there would be a million of them by 1967), the faster new opportunities seem to open up for them to demonstrate their talents and fatten their pocketbooks. Among the most promising fields: financial PR —spurred by business's awakened interest in stockholder relations and new financing—and international PR —in many respects a virgin field. At the same time, the anxiety of PR men for "professional" status grows progressively keener; the more successful they become, the more they press for a seat one notch closer to the head of the board table. ♦

CORPORATE FINANCING:

Where Should the Money Come From?

Condensed from Business Week

DESPITE zooming stock prices, few corporations are raising permanent capital through equity financing these days. This is a fact that has surprised and saddened a good many experienced investment bankers, who feel that some corporations are hurting themselves by saddling capital structures with costly debt when new common issues would be quickly snapped up by eager investors.

Most corporate treasurers feel quite differently. They strongly support debt financing because interest rates are tax-deductible, while dividends on stock are not. At the present 52 per cent corporate tax rate, they point out, a 6 per cent bond issue means no more than a 3 per cent after-tax cost to the company.

Underwriters, however, are making a strong effort to persuade companies to take a fresh, hard look at the idea of new stock offerings. Their main point: Prices of many companies' shares have risen out of all proportion to present earnings, while their dividend payout doesn't really amount to much compared with cash flow. These twin factors, they say, argue strongly for new share offerings. Moreover, there's a strong possibility of higher long-term interest rates, which would make debt even more burdensome.

Many corporations, of course, are not faced with the problem of external financing. The demand for capital, for one thing, is low—below that of the past three years. In many cases, capital spending has been cut because of plant overcapacity; in a few, by fears of another recession.

Corporate liquidity is high, and companies are able to generate much of their money needs through internal sources. In fact, depreciation allowances in 1958 are estimated to have reached $21 billion, topping actual corporate earnings for the first time.

This reliance on internal funds shows up in the paucity of corporate debt and equity issues. Industry raised only $8.6 billion in public financing last year, from a total of 659 issues. This compares with $9.6 billion from 750 issues in 1957. Common stock financing suffered the most; it declined 19 per cent in dollar volume, 12 per cent in number of issues.

During the first half of 1958, when stock prices and interest rates both were lower, the drop in equity financing made sense. But some observers think that the rise in stock prices and interest rates in the second half should have brought an about-face in finance plans. It didn't happen that way in 1958, but it may now.

The financing calendars are beginning to show an increase in equity

offerings, enough to suggest that companies may be ready to step deeper into the market. The key months to watch, underwriters say, are April, May, and June. Companies have been getting a good look at the year-end figures they use in projecting capital needs and borrowing. If stock prices maintain their present levels, underwriters say, many companies will choose equities.

Underwriters who favor equity financing say certain types of companies are most likely to benefit by it:

- Corporations that are loaned up, with comparatively high debt ratios. New financing through equities would balance their capital structures.
- Companies that may be satisfied with existing debt ratios, yet want to save some borrowing reserve for a rainy day. For a solid company, debt money is almost always available, but building up an equity cushion today will make lenders more hospitable tomorrow.
- Companies that have suddenly become hot favorites in the market because of scientific developments. Such companies may find their stocks selling at close to 40 times earnings, and sale of new stock is an economical way of providing permanent capital.
- New or family-owned companies in other growth fields. The general bull market gives them a chance to create a market for their own stocks.

Before any company decides to raise new money through sale of equities, however, it should consider the potential drawbacks. One of the biggest is the dilution of existing equity by the issuance of new shares, which has a depressing effect on both the stockholders and the market price of shares.

Last year, for example, Inland Steel Co. wanted to raise $50 million. It could have floated bonds at a 4½ per cent interest rate, with underwriting and other fees amounting to about $500,000. Or it could have sold new stock, at about 10 per cent below the market to make sure the entire issue was accepted.

Since the stock was selling at around $100, it would have taken some 600,000 new shares to raise the desired sum. These would have been more than 10 per cent of the total outstanding shares, would have substantially cut earnings per share, and would probably have forced the market price down. Inland decided to borrow through bonds.

Another disadvantage of equity financing is loss of the leverage that comes from a high ratio of fixed-income obligations: bonds and preferred stock. In such a structure, an earnings rise goes largely into the limited number of common stocks.

Then, too, the prevalence of stock options for management tends to discourage equity financing. Few executives will say so, but it's hard for management to be enthusiastic about a method of financing that would dilute its equity position.

It would take more than present conditions to lure many of the big corporations into equity financing, underwriters and company treasurers agree. First, earnings would have to increase considerably so that new stock wouldn't hurt the dividend rate per share. Second, interest rates would have to rise further to the point where debt costs would be prohibitive. ♦

INDUSTRIAL CATALOGS: Salesmen in Print

By Goldalie Frank

Condensed from Management Methods

IF YOU USE industrial catalogs in selling your products, you may not be fully exploiting the potentialities of this important sales tool. When they are designed to really sell, catalogs can give a sharp boost to the effectiveness of an average sales force. This is brought out in a recent survey made by the Sales Executive Club:

- Salesmen calling cold average 9.2 orders on each 100 calls.
- Salesmen following up ad inquiries get an average of 16 orders per 100 calls.
- Salesmen answering inquiries from prospects who have studied a catalog walk away with an impressive 38.4 orders per 100 calls.

Only rarely is there a need for the bulky, old-fashioned general catalog listing everything there is to know about all of your company's products. Such a book may be useful for salesmen and a few long-established customers who need voluminous, detailed data—but it won't do a selling job.

Today's catalog must be planned for a specific group of prospects, show only the products that will interest that group, and concentrate on the information they need to start placing an order.

In planning a selling catalog, two questions should be examined first:

What kind of buyers constitute your market? Be as specific as you can. For example, are they plant engineers? Product designers? Metalworking production executives? If you have several discrete groups of customers, plan to reach them through several catalogs tailored to their individual needs.

What kind of buying action do you want? Once they've studied your catalog, should your prospects call your local sales representative, write

your product into a specification, place an order direct, or what? For each of these actions, what should they do *first*? Your catalog's job is to persuade these specific prospects to take a first step toward buying your products.

When you know why you're putting out a catalog, the next question is: Exactly what information should be included in your catalog to make your firm's prospects act? Each catalog you issue requires a separate thinking-through on this problem of content. Here are seven basic guides:

1. *Show your products visually.* If possible, show each product three ways: in a simple illustration; in a diagrammatic sketch; and in a photograph or drawing showing the product in action.

Don't neglect the action shot. J. J. Cranmore, general manager of the Lowerator Division of American Machine and Foundry Co., confirms its value:

"Showing the product in action stimulates planning and suggests multiple sales. The architect can more graphically visualize how to incorporate Lowerator products, whether he's planning a 12-seat lunch counter or a school lunchroom to serve 1,000 students."

2. *Describe your products completely.* Don't stint on descriptive copy. (Don't waste words, either.) Indicate all specifications clearly; key your products precisely; use diagrams of detailed parts whenever necessary. Place all descriptions as close to the illustrations as possible.

3. *Answer all the questions your customers most frequently ask.* Don't force your prospects to get involved in extended correspondence before they can place an order.

4. *Emphasize your products' exclusive features.* Don't be afraid to be vigorous.

5. *Counter your competitors' claims.* Subtly, of course.

6. *State your prices simply and clearly.* In most cases, a catalog is not complete without prices. If you list them in a separate section or companion booklet, cross-reference carefully. Illustrations from the main text, reduced in size and repeated in the price list, can help your prospects avoid annoying mistakes.

7. *Help your prospect take his first step toward buying.* Don't make him guess about essentials, such as credit terms and shipping details. Make it easy for him with order forms, inquiry blanks, and step-by-step buying rules.

Decisions on the aiming of your catalog and its general contents should have the close attention of top management. Its appearance is more properly a matter for experts in printing design, whether members of your own advertising staff or outside consultants.

Yet management should keep an eye on design, too. Your catalog's appearance helps to define your company in the prospect's mind. Bold or conservative, careful or careless, childish or adult—the design says in effect: "Look! This is the kind of company you'll be dealing with."

Here, then, as a quick guide, are the five basic decision areas in catalog design:

Format. The basic problems here are choosing the size and shape and deciding between loose-leaf and bound.

Your alternatives may be few if your policy is to follow trade standards or to allow for binding in an assembly catalog (Sweets, Reinhold, McGraw-Hill, etc.). They may also be restricted if you make frequent item changes, use catalog pages for separate mailings, or use individual pages in several different catalogs.

Within your range of choice, however, each possible format has its own advantages. For example, a vest-pocket catalog (or supplement to a main catalog) allows constant ready reference, while loose-leaf binding allows sectional mailings for repeated impact.

Identification. This starts with the front cover, which should identify your company and your products immediately and effectively. It remains a must throughout the catalog, including frequent repetition of your company's address and telephone number.

Organization. The keys here are clearly-defined sections and visual units, plus an easy-to-use index. Sectioning should be based on areas of buying, rather than manufacture.

Visual flow. The catalog must be visually interesting page-by-page and as a coordinated unit. Highlight the pages or page-areas on which you want the prospect o focus.

The two main tools are continuity and emphasis. Continuity can be anchored to a theme—a geometric shape, treatment of typography, or technique of illustration—which is repeated throughout the catalog. Emphasis is achieved by variations on this theme.

Action. If the catalog is to sell, the design must point to the first buying step and should itself imply action.

Your finished catalog is itself a product, and, like all your products, it faces stiff competition. Market it imaginatively. Careful merchandising and distribution will pay off in increased prospect reading time. And that time pays off in sales.

Of course, you'll send catalogs to all active customers and to selected names on your inactive lists. But since the unit cost of printing decreases rapidly as the quantity increases, you may also find it feasible to reach many new prospects. Industrial lists are easily available. And don't overlook such markets as schools, libraries, public and private institutions, civic groups, and Chambers of Commerce, if you manufacture a consumer item. Catalogs and other sales literature receive wide circulation in these markets. But don't just mail your catalogs and hope for the best. Use the proven direct-mail selling techniques, such as mailing teaser cards in advance of the catalog. ♦

TO DESTROY THE WESTERN TRADITION of independent thought it is not necessary to burn the books. All we have to do is leave them unread for a couple of generations.

—Robert M. Hutchins

Many companies are finding preventive medicine programs sound investments in future employee productivity . . .

Preventive Medicine Pays Its Way

By Stanley P. deLisser

IN PREVENTIVE MEDICINE, management has a powerful tool for maintaining the health, morale, and productivity of its employees. In addition to checking illness and disease, preventive medicine offers an opportunity to halt the spiraling costs of hospital, surgical, and major medical insurance plans. Although a preventive medicine program would have no effect on these costs for a number of years, it could well produce a declining cost curve over a long-range period.

Lack of preventive medicine coverage constitutes a major gap in the current system of voluntary health insurance. Nor can it be assumed that because a company has a medical department with one or more full-time doctors it has a preventive medicine program. Many industrial physicians believe that the doctor in industry should concern himself only with job-related accidents, diseases, and health hazards.

What about costs? There is good evidence that an effective preventive medicine program can more than pay its own way. One striking example is the experience of Rome Cable Corporation. The company's president, Ross Frazier, reports, "We started our medical department in 1947. Total absenteeism for that year for all hourly workers averaged almost nine days per year. By 1957, the figure was down to four days. This meant improved earnings for the employees of almost one week's pay and the saving of over $800 in production costs for each employee. Multiply this saving by our 1,500 employees and it becomes impressive.

"The number of industrial accidents involving lost time averaged 71 for the years 1945 through 1947. For the ten years since the installation of our medical program, the average was 32. This represents a reduction of 56 per cent in the number of lost-time accidents. The number of sickness and accident claims in our health insurance program, shown as a percentage of the total number of employees, was 18.4 per cent in 1945. By 1948 it had dropped to 13.6 per cent and in 1957 it was down to less than 5 per cent."

How should a preventive medicine program be set up so that it will function effectively? Probably the most sensible operating procedure is to have the program under the direction of a physician reporting to the executive in charge of the personnel or production function. The lay executive supervising the program should make sure that he is thor-

From a talk before an American Management Association seminar.

oughly familiar with the fundamentals of preventive medicine.

In operation, the preventive medicine program is concerned primarily with physical examinations. One of these is the pre-employment examination. By no means should this be simply a procedure used only to screen prospective employees. It also has great value as a guide to placing people in jobs that are compatible with their physical condition. For example, a tall, obese man with poor coordination would be a bad choice for a job that requires climbing up narrow ladders.

Many employers seem to take pride in getting their pre-employment examinations done at the lowest possible cost. This is a shortsighted attitude. An employer will get no return at all on the cost of an inadequate examination.

Another part of the preventive medicine program should be periodic health examinations for company executives. These should be given at least once a year, and can be expected to cost between $100 and $250. Finally, there are the periodic examinations given to the company employees on lower levels. The importance of these examinations can be easily seen in these statistics:

1. Periodic examinations given in Occupational Health Services, Inc., mobile clinics revealed that an average of one out of four employees has a serious or potentially serious medical defect.

2. A recent Health Research Foundation study shows that 72 per cent of a large company's claim dollars were paid out for only 17 per cent of the employees. This indicates the large savings that can be achieved by improving the health of a small number of employees.

At the Lake Logan Conference on Occupational Health early last year, top industrial executives and leading physicians in the field of preventive medicine reached these conclusions: "We feel that, while the maintenance of his health is an employee's responsibility, it is good business for employers to include in their programs provision for making periodic examinations available to all employees. We feel that it is worthwhile to schedule such examinations annually if possible. We feel that these examinations are not in any way a method of compensation for the employee and that they should not in any sense be considered a benefit. They constitute a management activity which we feel is a prudent investment in the productivity and hence the success of an enterprise." ♦

THE TRAIL OF BUSINESS PROGRESS is littered with the debris of outworn management devices. . . . Plans, systems, and concepts have a rate of obsolescence, just as does a piece of machinery . . . Originally serving appropriate purposes, they tend to become encrusted with habit and tradition to a point where they actually become deterrents to fresh thinking.

—M. P. McNair

5 WAYS TO KEEP SALESMEN HAPPY

By Robert B. Ross

Condensed from American Business

A SURVEY of some 2,000 salesmen made last year by the Dartnell Corporation (See "What the Salesman Wants from His Boss," THE MANAGEMENT REVIEW, April, 1958) uncovered five common dissatisfactions that were lowering morale and resulting in poor sales performance.

However, some of the salesmen included in the survey expressed complete satisfaction with these aspects of their work. A follow-up survey was made recently to find out what the employers of these men do to insure that none of these five complaints will be heard:

1. *Inadequate contact with the boss.* "I wish I had more contact with my boss," was a frequent lament in the original survey. This complaint appeared to stem from three irritants: inadequate guidance on selling techniques, insufficient information about prospects or technical data, and lack of opportunity to make suggestions and complaints.

One company that received an "outstanding" rating from its salesmen for its handling of the liaison problem was a large consumer-products organization that does its own selling to chain-store headquarters, large distributors, and other mass retail distributors. The general manager explained why:

"Our operating plans provide for three regular methods of contact. One is our weekly sales meeting. The supervisor tells the salesmen about our progress as a group, reports on new sales trends, developments of new products, response to current campaigns, and so forth.

"Next, all supervisors are required to spend a minimum of two hours a week with each man in the field. There is some flexibility in this, because non-city territories often require traveling. In those cases, we ask the supervisor to spend at least one day, or the better part of a day, with each man once a month.

"The third part of our program is tied in with our performance evaluation plan. Twice a year, the supervisor sits down with the salesman to review specific parts of his job and his over-all progress toward company and personal goals. These items are noted on an evaluation form which becomes part of the salesman's personal history folder."

The president of a small company selling food specialties in the East and Midwest says:

"I try to give each one of my sales-

men a feeling of partnership in the business. I have a private, unlisted telephone number at both my office and home for the exclusive use of salesmen. They are encouraged to call whenever they have news of developments that demand fast action. Once the men feel they can reach us without delay if they need to, the number of calls decreases but the quality of the reasons for calling increases."

A cross section of several designs that provide better opportunities for contact with the boss shows these characteristics:

In the field. Better planning of what each contact is supposed to accomplish. A sincere attempt to spend part of each visit listening to the salesman. A definite policy of making contacts, with primary consideration given to helping each salesman reach a tangible goal that is recognizably important to him.

At regional office or headquarters. Recognition of individual needs to meet other salesmen, some staff people, and, if possible, executives up the line one or two steps beyond the immediate supervisor. Provision of some inside contact (a point or a person) as the salesman's clearinghouse for information or questions that do not fall directly into established channels.

2. *Irritation over too much red tape.* Many salesmen regard small details as their natural enemy. "I'm a salesman, not a clerk," is the way they put it. But some companies have managed to keep red tape from entangling their salesmen. The chief marketing executive of a medium-sized manufacturer of appliances was not surprised by the high score his company earned on this point:

"We have streamlined the paper work down to a mere shadow of what it used to be. Two years ago, we quit asking our men to do market research for us, after realizing that the best reports came from the boys who sold the least. Now we use a market research survey service and get faster, more reliable information."

Frequently, when a salesman complains, "Too much of my time is taken up with petty details that should be handled by others," he really means, "I can't see what good this is going to do me." Since some paper work is unavoidable, companies with high scores in this area have been careful to sell their salesmen on the value of reports and other paper work. Here are some other steps frequently mentioned by sales executives as effective ways to reduce resentment of red tape:

Review each report at least twice a year, and prove that it helps make sales—or abandon it.

Don't use salesmen as clerks.

Preprint, use codes or symbols and so forth wherever possible.

When time is at a premium, provide dictating equipment for use in the field.

Add a reward if you think that an added chore is worth it.

Give clear instructions, in writing if possible.

Find out whether outside specialists can do some paper work jobs better than your own sales force.

3. *Self-doubts about selling as a career.* The man with mental reservations about selling as a career doesn't always quit. In the original survey, at least 37 per cent of the salesmen who responded indicated

that they "have seriously considered leaving this business."

Before concluding that these men are just not suited for sales, it might be wise to consider other possibilities. The executive officer of a large trade association takes this point of view:

"The figure of 37 per cent of the group seriously thinking about leaving selling is a conservative one. Some of our surveys show that actual turnover, in some companies, is higher than that—over a three-year period. We tried to find the major causes. Poor selection is a factor. But we found a surprising number of cases where low-grade supervision was a big cause of high turnover.

"Plenty of mistakes made in selection have been salvaged by good supervision, but we fear too many potentially good salesmen are leaving the field after unpleasant experiences with sales supervisors who are unable to cope with common problems, or who don't want to be bothered with them.

"One answer is to motivate and develop sales supervisors to a point where the waste of manpower is reduced to a minimum. Training can do part of this job, and top management can help by showing the importance it places on this function. Sometimes compensation needs to be looked at. A supervisor who is judged or paid solely on a basis of sales results should not be blamed too much for giving minimum time and attention to training and developing men."

A different school of thought is represented by a manufacturer selling to dealers. He says:

"The man who yearns to quit selling should be helped in this direction by his employer. As soon as we find a man who has trouble pulling his own weight, we try to find out if he really wants to stay in selling. If he wants 'out,' we try to transfer him or help him get another job."

4. *Supersensitivity to the disappointments in selling.* Seventy-one per cent of respondents in the original survey indicated that they agreed with the statement, "It is necessary to harden oneself to the day-to-day disappointments in selling." Although the survey staff regarded this as an unfavorable response indicating low morale, a number of participating sales executives did not agree.

An industrial machinery sales manager declared, "We select keen, aggressive men. We expect them to be disappointed if they lose a sale. But we expect them to bounce back, too. Our comparatively high rating in this area reflects many things. We've made a heavy long-term investment in supervisors who have highly developed skills at coaching men in the field. We constantly strive to weave good principles of two-way communications into all activities for salesmen. We develop their self-management abilities, encourage their enthusiasm, and stimulate creative selling as a way of life. Our men do get turndowns, the same way other salesmen get them. But in most cases they snap back from their disappointment with new ideas and fresh approaches—plus confidence and enthusiasm."

5. *Difficulty in maintaining well-organized work habits.* Over half of the salesmen originally surveyed frankly admitted they had a problem in keeping their work well organized.

There is no direct proof that a man who feels well organized in his work is a more productive salesman than one who does not. But there is some evidence that most individuals in disorganized or unorganized situations have disturbed feelings which may lead to inferior performance on the job.

The very nature of some sales activities makes it easy to conclude that selling is "different" and can't be organized into neat pigeonholes. But even in those cases where the greatest diversity is claimed, it is now generally admitted that definite benefits result from better planning.

The sales manager of a company making and selling special office machines says:

"One reason our men seem to be better organized than most others is the training and assistance we have been giving them for several years along these lines. Our territories and prospects are fairly well defined. Our market research division rates sales potentials so that we can list each customer and prospect in the order of his importance to us. Then we apply a judgment factor, and each man works up a plan to get the most out of his territory. We provide diaries, itineraries, and special planning sheets to encourage them to think about the effective use of time."

The sales manager for a paper-products corporation reports: "We look for a well-organized individual to begin with. Then we seek to encourage and develop this trait by example and through training. We run classes in time management at our headquarters training center, and we have a reading list of books on the subject which ties in with a correspondence course for all field men. We try to keep an open mind about the use of all new ideas that encourage planning and help our men to systematize records, reports, and call activities."

However, the marketing vice president for an electronics manufacturing company voices a minority opinion: "To select only methodical individuals with a love of logic and order for a job that demands coping with the unexpected, the unknown, and the outrageous, seems to me to be courting disaster. What is needed most is the ability to put up with frustrating experiences caused by the normal lack of organization in the business world.

"Give me a man who can improvise in the face of unforeseen events. Give me a man with the spark of creativity. Give me a man with the desire to compete and the urge to succeed. Then, if he is also well organized, I will be grateful for the dividend." ♦

WHAT, NO VODKA? Fat expense accounts are a problem in the Soviet, too. *Pravda* recently complained that Russian executives going to Moscow on business have used more than $13 million of government money to see football games, plays, movies, and art galleries.

—Elmer Roessner in *Business Today*

BRIEF SUMMARIES
of other timely articles

GENERAL

FEEDING A SERVICE-HUNGRY U. S. *Business Week* (330 West 42 Street, New York 36, N. Y.), February 28, 1959. 50 cents. Consumers spend more than a third of every dollar for services, but the service industry is having to use all its ingenuity to keep up with its growing—and shifting—markets, reports the author. In this informal survey of the service field, he notes a trend toward the selling of a variety of services through a single agency, details the woes of a laundry industry plagued by laundromats and wash-and-wear fabrics, and describes some of the ways in which service businesses are trying to catch new customers and hold on to old ones.

SIN BRAVELY: THE DANGER OF PERFECTIONISM. By Benjamin M. Selekman. *Harvard Business Review* (Soldiers Field, Boston 63, Mass.), January-February, 1959. Reprints $1.00. Businessmen must dispel the illusion of omnipotence that surrounds them, argues the author, pointing out that they work under serious limitations: the limitations of tools, of science, of predicting accurately basic economic and social factors. Maintaining that the social and moral obligations to which some companies have committed themselves are impossible to fill, he suggests that management should not be the agency of primary responsibility for the human problems of our society but must be basically concerned with the creation of as strong a material foundation as possible.

SURVEY OF CURRENT BUSINESS—ANNUAL REVIEW NUMBER. (Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.), February, 1959. 30 cents. A marked business recovery during the second half of 1958 followed the bottoming out of the recession in the second quarter of the year, according to this annual review of the past year's economic developments, which reports that by the end of the year the physical volume of national output had regained its previous peak and the value in current dollars was even higher. Separate sections of the review analyze economic activity and adjustment in specific areas during the year: national income, purchasing, and price developments; production and distribution; and foreign business and investment.

WHAT WORLD MARKETS EXPECT IN 1959. By Alexander O. Stanley. *Dun's Review and Modern Industry* (99 Church Street, New York 8, N.Y.), January, 1959. 75 cents. The prevailing mood in overseas markets is one of quiet optimism about this year's international business prospects, the author says, in contrast to the outlook a year ago, when observers could see a glut in many world commodities, shrinking prices, and thinning markets. Outlining what is expected during the year in 43 international markets, he includes these trends: Imports from the United States will rise or at least stay level with 1958 in most markets; imports from other

countries will increase sharply in more than half the markets; exports to the United States will mostly hold to the 1958 volume; exports to other countries will be expanded in more than half the overseas areas; and the current dollar situation will be stronger than last year in two out of five of the markets.

INDUSTRIAL RELATIONS

MENTAL ILLNESS IN INDUSTRY. By Robert N. McMurry. *Harvard Business Review* (Soldiers Field, Boston 63, Mass.), March-April, 1959. Reprints $1.00. Every business has its quota of problem employees, ranging from people with minor eccentricities to borderline psychotics whose contact with reality has become extremely tenuous, the author points out. Nevertheless, he says, the treatment of mental illness is extremely difficult and is in no instance the province of the amateur, no matter how well-intentioned, and management must accept the fact that the grossly maladjusted employee, even when he is highly skilled and productive, is likely to cause more than enough trouble to offset his positive contributions to the organization. In such cases, he concludes, positive action—even outright dismissal if necessary—is likely to benefit both the company and the individual.

HOW FIRMS ARE SHAPING THEIR RETIREMENT PLANS. *Management Methods* (22 West Putnam Avenue, Greenwich, Conn.), January, 1959. 75 cents. Pension plans are getting more numerous, more liberal, and more alike, according to this article, which reports on the results of a survey conducted by the Connecticut General Insurance Co. (Hartford, Conn.) among 600 companies. The report covers the seven factors most strongly influencing the costs of a pension plan: the funding method, eligibility, retirement age, benefits, employee contributions, vesting, and options.

OFFICE

USING IDP FOR INVENTORY CONTROL. By Frank H. Muns. *The Controller* (2 Park Avenue, New York 16, N.Y.), February, 1959. 65 cents. This case history describes how one company (Westinghouse Electric Corporation) set up an IDP system to handle the invoicing, shipping, and inventory control for 5,500 items in four warehouses receiving hundreds of orders daily from 20 sales offices in a five-state area. Through this system, the author reports, orders are fed into the central processing system, where the computer does the billing, feeds back information that enables the manufacturing divisions to adjust their production schedules, and transmits order information to the correct warehouse, where IDP automatically writes the shipping papers.

CHALLENGE YOUR OFFICE PROCEDURES WITH THESE FIVE CONCEPTS. By John R. Crowley. *American Business* (4660 Ravenswood Avenue, Chicago 40, Ill.), March, 1959. 50 cents. Maintaining that many unexploited profit-improvement opportunities in the office methods field are going begging, the author focuses attention on five basic concepts involved in the analysis and evaluation of office procedures. He gives some concrete examples of how the use of these concepts can lead to greater efficiency and substantial cost savings in such areas as customer correspondence, invoices, salesmen's reports, purchasing requisitions, payroll operations, integrated data processing, shipping records, inventory control reports, and filing procedures.

PRODUCTION

BUYING AND SELLING USED EQUIPMENT. By Art Zuckerman. *Dun's Review and Modern Industry* (99 Church Street, New York 8, N.Y.), March, 1959. 75 cents. The used machinery and machine-tool markets provide a means for quick disposal of equipment that is either surplus or slated for replacement by newer, more efficient production tools, the author points out, while supplying capital that can be applied to retooling. At the same time, he says, they are an excellent source of equipment to fill emergency needs and to resolve some of the problems caused by a shortage of funds, and they have made possible the birth of many companies that could never have raised sufficient capital to buy new equipment. In this article, he discusses these markets and outlines some guides for prospective buyers of used equipment.

FACTS AND FIGURES OF THE METALWORKING INDUSTRY. *Steel* (Penton Building, Cleveland 13, Ohio), January 5, 1959. Reprints gratis. This eleventh annual edition of Metalworking Facts and Figures provides a wealth of material useful in analyzing markets and checking up on trends in prices, earnings, labor, and production in the world's biggest industry. The 48-page section contains statistics on a variety of metals and metal products, including iron, steel, nonferrous metals, machine tools, materials handling equipment, appliances, and transportation and farm equipment.

COST CONTROL. By Phil Carroll. *Factory* (330 West 42 Street, New York 36, N.Y.), March, 1959, $1.00. Ignorance of product costs is still the weakest link in cost control, says the author, arguing that overhead costs are not being correctly analyzed and assigned to the products and processes that create them. In this discussion of the past, present, and future of cost control, he specifies three requirements for greater cost accuracy: (1) Prompter reporting of cost trends; (2) better interpretations of the facts and figures; and (3) cost facts that more correctly reflect profits or losses by products.

MARKETING

NEED HELP WITH MARKET RESEARCH? YOUR BIGGEST ANSWER MAN—UNCLE SAM. By Frank M. Kleiler. *American Business* (4660 Ravenswood Avenue, Chicago 40, Ill.), February, 1959. 50 cents. Since the federal government is the country's biggest collector, tabulator, analyst, and distributor of market data, the businessman in search of facts and figures to help with a marketing problem would be wise to make use of the wide variety of government marketing information available, suggests the author. He lists some government publications that would be useful in a marketing library and provides a guide for learning about other government publications and services of interest to the marketing executive.

ADVERTISING: A PROBLEM IN INDUSTRIAL DYNAMICS. By Jay W. Forrester. *Harvard Business Review* (Soldiers Field, Boston 63, Mass.), March-April, 1959. Reprints $1.00. The goal of advertising is not merely to generate impact or consumer awareness, or even to sell, the author says; it is only one element that should contribute to the long-range profitability of the company. Describing what he calls the industrial dynamics approach to the problems of advertising, he stresses the importance of time relationships in managing and creating effective advertising and in avoiding the production of advertising that can actually increase costs, produce an economic loss, and lead to the downfall of the products involved.

KEYS TO SELLING-POWER: YOU CAN BUILD SALES IN ANY ECONOMY. *Printers' Ink* (635 Madison Avenue, New York 22, N.Y.), February 13, 1959. 25 cents. Many companies bucked the recession trend by increasing both the amount and quality of their sales training and sales supervision, reports this article. Surveying a number of these successful programs, the article stresses two elements common to all of them: (1) the sales training is related to a specific marketing goal, and (2) the supervision is directed toward seeing that all efforts are made to achieve that goal.

FINANCE

THE FEDERAL WELFARE AND PENSION PLANS DISCLOSURE ACT. By Robert D. Constable. *The Controller* (2 Park Avenue, New York 16, N.Y.), February, 1959. 65 cents. As an aftermath of the disclosures of the McClellan committee and other investigating groups, which turned up numerous examples of union-managed or jointly managed pension and welfare funds that were being used for the private gain of those entrusted with their management, the 85th Congress passed the Welfare and Pension Plan Disclosure Act at its last session. In this article, the author describes the provisions of the Act, which requires all employers with such plans to file an initial descriptive report and subsequent annual reports of their operation, and he outlines the specific information that is required for these reports.

NOW THEY'RE DOING SOMETHING ABOUT PRODUCTION COST ACCOUNTING. By E. W. Ziegler. *Factory* (330 West 42 Street, New York 36, N.Y.), March, 1959. $1.00. Anarchy in cost accounting has resulted from rising fixed costs, a big change in the pattern of the labor force, and a general cost push, according to the author, who suggests that the remedy for this chaos may be the adoption of the direct costing technique. He describes how the direct costing technique works and cites the advantages it has over the standard absorption costing techniques now being used by most companies.

RESEARCH AND DEVELOPMENT

RESEARCH TALENT EVERYONE CAN USE. By William D. McGuigan. *Nation's Business* (1615 H Street, N.W., Washington 6, D.C.), March, 1959. Reprints 15 cents. The growing availability and effectiveness of outside research facilities provide increasing opportunities for smaller businesses preparing for the future and for larger concerns that want to augment their own research efforts, according to the author. He describes the six basic types of organizations engaged in research for others (universities, research institutes and foundations, government labs, industry-sponsored labs, for-profit organizations, and consultants) and presents questions to be considered when choosing one.

THE OPTIMUM CLIMATE FOR INDUSTRIAL RESEARCH. By Charles D. Orth, 3rd. *Harvard Business Review* (Soldiers Field, Boston 63, Mass.), March-April, 1959. Reprints $1.00. The basic product of the research laboratory is the creative work of its research personnel, the author says, and the degree of the laboratory's productivity will depend on the degree to which management develops and maintains a climate for professional research work. In this article, he discusses why scientists are different, what climate must be established to encourage creative industrial research, and what steps management can take to facilitate the development of this climate in its own organization.

Collective Bargaining in the Months Ahead

(*Continued from page 8*)

tancy in order to heal the breach within the union after a serious challenge to MacDonald's leadership.

The potential steel strike illustrates the amazing adjustment of business and the general public to an economic phenomenon that only a few years ago was viewed with calamitous alarm. Ten years ago, the thought of a steel strike would have had Washington and the business world in a frenzy. Today, we are more sophisticated about strikes; as consumers, businessmen, or politicians, we are learning to live with them.

MANAGEMENT GETS TOUGHER

Today's managements have grown up with labor unions, and they are inclined to run less scared than their predecessors. Several factors seem to contribute to their firmer attitude toward unions:

1. Direct wages are a growing production cost and causing some profit squeezes.

2. Fringe benefits, which cost about 21 per cent of money wages, are becoming more of a fixed liability and, in some cases, are impeding productivity.

3. The economic power of certain unions places small business at a disadvantage. With unions forcing the organization of collective bargaining along industry-wide, area-wide, and company-wide lines, single plants or companies are becoming less able to maintain effective opposition to concentrated union power.

These factors have led to a growing management determination to present stronger resistance to union demands—particularly to the "whipsawing" tactics used against one company out of a group. Illustrations of this growing firmness may be seen in several recent developments:

1. Under the terms of a mutual aid compact, established between six airlines to redistribute profits when extra traffic is carried due to one of the lines being struck, over $5 million was turned over to shut-down airlines during the recent airline strikes.

2. The shutting down of all Los Angeles supermarkets by employers when the union struck one of the Association members is

another example. The same thing occurred last fall among the New York newspaper publishers and in the West Coast trucking strike.

Management is also coming to a realization that union relations are a line responsibility, and that it has been a mistake to delegate a large portion to staff men. With this trend, we shall see (1) more managers concerning themselves with labor matters, (2) less compromise on working practices that increase costs substantially, (3) smaller labor relations staffs who will turn from "fire-fighting" on labor matters to supervisory counseling and, (4) lower levels of management handling grievances with understanding and dispatch.

The main negotiations to watch during 1959 are the previously mentioned steel situation, the rubber industry, where contracts expire in April, and the nationwide railroad negotiations this fall. Although anything can happen, it is probably that we shall have no more than an average number of strikes (about 3,800) this year, despite talk about tough attitudes and tough negotiations.

Unions will concentrate on wages but, at the same time, will achieve employee benefits improvements that might total another 3 cents per hour. Few, if any, new fringes will be forthcoming, but pensions, health and welfare benefits, holidays, vacations, weekend premiums, etc., will be liberalized.

WORKER SECURITY

It is likely that major disputes will arise on union demands for increased worker security. The toughness will not be one-sided; management will also want some changes. Management will approach the bargaining table seeking to minimize lay-off problems and costs that were unforeseen and unappreciated in labor agreements signed prior to the recession. Workers, on the other hand, will demand restrictions that will give them more job security, more straight seniority, fewer job qualifications, retention of job content despite less available work, protection against plant relocations, severance pay, and job retraining.

The relatively high level of unemployment may have a strong influence at many a bargaining table during the coming year. The Steelworkers offer statistics to show that 96,000 fewer employees

are being used to produce exactly the same steel tonnage that was produced 18 months ago. There are 55,000 fewer auto workers today among the big auto companies than in late 1957, despite the pick-up in car production and sales. Permanent lay-offs among railroad employees during the past few years is sure to make job security and severance pay, as well as wages, paramount issues in their coming negotiations.

Although business generally is approaching prerecession levels, unemployment has failed to decline proportionately. January unemployment was over 4,700,000 persons. Expectations are that the 5 million mark will be reached within the next several months. This will be close to the unemployment high of 5,400,000 recorded last June.

A number of factors account for this lag in re-employment:

1. Short work weeks are being lengthened to usual weekly hours. Four-day weeks are becoming five-day weeks.

2. Management has rediscovered the importance of cost cutting. Operational short cuts have been adopted and surplus manpower, hourly and salaried, has been pruned.

3. Increased productivity of newer machinery and manufacturing processes means more goods with fewer workers. Recent capital expenditures for plant and equipment is beginning to pay off.

4. Overtime, in some situations, is being utilized in lieu of recalling extra employees until full business recovery is realized.

Roughly speaking, it is assumed that national full employment exists when unemployment does not exceed 3 million workers. Should unemployment throughout 1959 continue to range at over 4 million, serious questions regarding the responsibilities of business to provide work opportunities will be raised, not only by labor but by legislators and the public in general. However, general indications are that unemployment will be lowered to at least 3½ million by year end.

A SHORTER WORK WEEK?

Unemployment will also kindle a real fire under the often repeated union demand for a shorter work week. Both the Rubber Workers and the Steel Workers have listed this issue as a major item in their impending contract talks. It is doubtful that any

significant changes will come about this year, or within the next few years. (It would be unwise, however, to bet against a 4-day, 32-hour work week within the next 15 years.)

There are a number of reasons for the belief that a shorter work week will be this slow in coming into being. On a yearly basis, the number of hours worked is considerably fewer than 40 hours per week. With three weeks' vacation, paid sick leave, and eight paid holidays per year, annual hours worked become less than 1,900 hours—or about 36½ hours per week. Subtract from this such allowances as coffee breaks, smoking time, wash-up time, travel time, etc., and it will be readily seen that the average employee actually labors much less than the standard 40-hour week for which he is paid.

Pay for time not worked will continue to indirectly cut our work week. This has two advantages from the union point of view: Total income is maintained with less work being performed, and the available work load is spread over more employees.

For the time being, the unions will press for a shorter work week but ultimately will concede to better vacation and holiday benefits. An interesting wrinkle in this respect is the possible demand of the Steel Workers for a "sabbatical leave." Under this plan, workers would have three months' leave with pay in addition to normal vacations every five years.

It is doubtful if union rank-and-file workers will agressively back a demand for shorter working hours. Experience indicates that workers are more eager to increase income than to cut hours. For example, among the rubber workers, who now have a 36-hour work week, the number of moonlighters (those who hold two jobs) is reputed to be about 20 per cent. On a national basis, over 5 per cent of the labor force (about 3.6 million workers) hold two or more jobs.

JURISDICTIONAL DISPUTES

One of the most troublesome problems persistently facing both labor and management is that of jurisdictional disputes—the old rivalry between craft and industrial unions. Over 10 per cent of all strikes are brought about by interunion disputes. This rivalry did not disappear with the AFL-CIO merger; in fact, it is gradually

emerging as a sharp issue again. The pressure is usually felt in a number of ways by management.

Work Assignments

Which class of workers should perform specific plant tasks? Does a production worker or a first-class electrician replace burned-out light bulbs? Does an instrument mechanic or an electrician disconnect a panel board? Does a carpenter or a laborer tear off wooden forms after concrete has set? This type of dispute is not limited to interunion rivalries; it may exist within the same union among different classes of workers.

Basically, it was a jurisdictional conflict—the disagreement between engineers and pilots about the third man in the cockpit—that precipitated some of the airline strikes last Christmas. At the moment, at least three oil refineries are on strike because of the work assignment issue, despite an agreement on the industry-wide 5 per cent wage increase. It is becoming more and more of a problem as the workers' search for security intensifies and technological changes spread.

Craft Severance

Under current rules of the NLRB, a group of craftsmen of the same skills may vote to secede from an existing plant industrial union and join a craft union. The reaction of the industrial union is usually strong when this occurs, and plant production suffers.

With the spread of automation, there will be increased need for skilled men and reduced requirements for repetitive production workers. Should the craft union decide to utilize the NLRB policy to fragmentize the current industrial unions, the resulting struggle will be a bitter one. And it is hardly likely that the craft unions will pass up this opportunity for expansion. A factor which will tend to sway skilled workers toward craft unions is the decreasing differential between unskilled and skilled wage rates.

Plant Construction

Last year, work on a $4-million addition to a power plant was held up for over seven weeks by the Ironworkers. Why? Because an Ironworker official noticed that the plant maintenance force

(members of the Chemical Workers' Union) was setting iron beams in an extension to a production building that was separate and apart from the power plant. The Ironworkers demanded that the company immediately agree to subcontract future expansions to an outside contractor in order that their craft union, rather than the Chemical Workers', would perform the iron work. The alternative was a work stoppage. As soon as the Chemical Workers became aware of the situation, management was threatened with another work stoppage. Either strike would hurt—the only decision left was which shutdown would hurt less.

This episode illustrates the dilemma of management when confronted with jurisdictional demands. The AFL-CIO has attempted to reconcile the conflicting claims by assigning new plant work to craft unions, maintenance work to industrial unions, and expansion or renovation to past practice. However, universal agreement among the disputing unions has not been obtained to date.

Organization of New Plants

The fur is flying within the AFL-CIO on the right of craft unions to combine to organize a manufacturing plant when that plant is within an industry dominated by an industrial union. For instance, a half-dozen or so craft unions formed a metal trades council to organize a new Louisiana aluminum plant in opposition to the Steelworkers, who claim industry-wide jurisdiction within the aluminum industry. The building and metal trades unions are refusing to abandon this technique, which has been in effect for a number of years. In addition, the Oil Workers are charging invasion of the petroleum industry by similar metal trade councils.

Jurisdictional disputes may well lead to another split in the labor movement. Should this come about, managers charged with collective bargaining responsibilities will not rejoice. Two powerful organizations, one the remaining industrial union core of the AFL-CIO and the other combining with the Teamsters, would make industrial life quite hazardous for the company caught in one of their jurisdictional conflicts. And you may be sure that their striving to outdo each other would make it tough at the bargaining table. It is a prospect that we cannot look forward to with any degree of pleasure. ♦

Economic Indicators

(*Continued from page* 13)

3. Industrial-stock prices
4. Wholesale prices, basic commodities
5. Commercial and industrial construction contracts (floor space)
6. Residential construction contracts (floor space)
7. Average work week, manufacturing
8. Business failures (total liabilities)

The coinciders:

1. Production (Federal Reserve Board index)
2. Nonagricultural employment
3. Unemployment
4. Bank debits (outside New York City)
5. Freight carloadings
6. Wholesale prices (except of farm and food products)
7. Corporate profits
8. The gross national product

The laggers:

1. Personal income
2. Retail sales
3. Consumer installment debt
4. Bank rates on business loans
5. Manufacturers' inventories

The curves for business failures and unemployment, of course, move inversely with those of the other nineteen and the general economy.

WHY INDICATORS BEHAVE AS THEY DO

The Leaders

Investment commitments are present actions based largely on plans or expectations for the future—in other words, on economic forecasts. Though they may call for no actual expenditures until much later, they provide one of the earliest positive signs of a business upturn or downturn. The first six leaders all represent or reflect investment commitments. Basically, a new business is incorporated, or a going concern contracts for a new building, orders

new equipment or even buys basic commodities, for one or both of two reasons: (1) Its owners or managers think conditions will permit them to make profits; (2) to avoid an expected price rise. An investor in corporate stock expects improved earnings, leading to capital appreciation or dividends or both. Home builders become active when they expect a strong market for housing.

On the other hand, fewer new companies are incorporated, fewer current companies invest in plant, equipment, or inventories, and fewer persons buy corporate stocks or build new homes when the business outlook—either in general or for themselves in particular—seems poor.

Of course, the expectation *may* prove wrong. But it is usually based partly, at least, on some kind of economic evidence. Further, if more or less generally accepted, it induces economic activities that tend to assure its own fulfillment. Therefore, it is at least somewhat *likely* to be fulfilled, so a peak (or trough) in general economic activity is at least somewhat *likely* to follow peaks (or troughs) in these six activities.

An employer tries to keep his labor force intact, so a company's first step toward expanding or curtailing production is generally to lengthen or shorten its work week. It adds or lays off workers, usually, only when work-week adjustments have proved inadequate or its management feels it can predict the economic future fairly confidently; generally, either of these conditions obtains only after expansion or contraction is well under way. Therefore, the work week, too, normally reaches a peak or trough before general economic activity does.

The general tendency for costs to increase and profit margins to narrow, and the attempt to trim inventories in the expectation of a recession, produce cutbacks in orders that drive many marginal firms out of business. And, conversely, expectation of a revival produces sufficient demand for their products to save many such firms that have been teetering on the brink. Therefore business failures lead the general economic cycle.

The Coinciders

The major reason these tend to change direction just about when the general economy does is that all eight either:

1. Directly measure broad phases of general economic activity (for example, industrial production and nonagricultural employment) or

2. Have to do with transporting goods or financing production and distribution.

Each on this list was chosen also partly because of its unusually smooth curve, in which turning points can usually be identified much more easily than in the leaders' curves.

The Laggers

Personal income lags because its major components all lag:

Wages. These are generally tied directly to production and employment, but usually lag slightly, especially at peaks, because wage rates generally do not move significantly until a production trend is well under way.

Salaries. The typical employer's desire to keep his working force intact, which we have already noted, of course holds back the total-salary curve in relation to the general economic cycle. In addition, the typical employer postpones raising or lowering salaries as long as he reasonably can.

Dividends. Early in a boom, the typical management tries to keep a fairly large part of its increased profits in the business, as a source of funds for possible expansion, as a safety margin against contingencies, or as both. On the other hand, dividend cuts may hurt credit or prestige in the financial markets, so most firms try to postpone them during a contraction as long as they reasonably can; the fact their capital requirements decline during a contraction helps them do this.

Retail sales trail the general economic cycle because (1) their major determinant is personal income, (2) retail prices move rather sluggishly. Consumer installment debt lags because repayments on debts incurred during prosperity do not immediately catch up with new credit extensions when the latter begin to decline, and may still exceed new credit extensions after the latter have begun to rise.

In the business area:

Interest rates on bank loans lag because money becomes easy or tight only after a downswing or upturn is well under way. (At the peak, many proposed investment projects are competing for a limited

supply of funds; at the trough, funds are plentiful but would-be borrowers are few.) Banks hesitate to raise or lower a current rate until they can fairly confidently identify the trend in the money market, and the Federal Reserve sometimes accentuates the lag by failing to exert or ease pressure on the money supply promptly.

Since effective demand falls below production when a contraction begins, inventories tend to rise awhile after business turns downward. And since production does not catch up immediately when demand increases, they decline early in an expansion.

THE DIFFUSION INDEXES

This description, too, oversimplifies the complex relationships among economic processes. But it still illustrates that, even though the indicators were selected empirically, good reasons exist for each to turn as it generally does in relation to turning points in general economic activity.

However, not every bend in an indicator's curve marks a genuine turning point; all the curves, and especially the leaders', show also many short-lived, more or less random fluctuations. Besides, individual indicators often move against each other. Two questions therefore arise: (1) Is there any objective way—other than in retrospect, when the distinction does little good—to distinguish between genuine changes of direction and inconsequential or erratic fluctuations, and (2) is there any convenient way to summarize the behavior of each group—perhaps even of all twenty-one—in one series?

As a means of answering these questions, National Bureau economists have developed the *diffusion index*. In essence, a diffusion index simply measures the percentage of time series in a given sample expanding each month. For example, one that measures 21 indicators registers 66.7 per cent for any month in which 14 of them rise. The curve is at zero if all are declining, at 50 per cent when half are rising and half declining, and at 100 per cent when all are rising.

In this simple form, however, a diffusion index still reflects random month-to-month fluctuations, which, obviously, seriously impair its significance and value. Seeking to correct this defect, some have tried smoothing the individual series with centered mov-

ing averages.* The averages used are longer for the more erratic series, shorter for the less erratic.

DIFFUSION INDEXES VS. INDIVIDUAL INDICATORS

Used with the individual indicators, diffusion indexes may provide useful summaries of current economic events. By themselves, however, they leave much to be desired. They have two main flaws:

1. While they indicate every general economic turning point, their sensitivity leads them to indicate also some that never occur.

2. More important, they interpret economic events far too mechanically. Only by studying each individual indicator—individually and in the framework of its group—can an analyst hope to appreciate the specifics of the unfolding economic process, and thereby understand how a current cycle resembles, and how it differs from, its predecessors. Only in this way can he hope ever to reach really balanced judgments about unfolding economic forces and the direction the economy is likely to take. In fact, even the individual indicators provide only part of the information he needs—and can get—about what is going on in the economy.

THE INDICATORS' LIMITATIONS

The indicators' major limitation stems from one basic fact: Every business cycle, however many characteristics it shares with any other, differs from every other, past and future.

For example, the 1948 and 1953 recessions were quite similar—superficially. They lasted about equally long, and the gross national product dropped between 3 and 4 per cent during each.

But their basic causes were very different. The chief 1948 cause was that expenditures fell in the economy's private components: consumer durables and nondurables, producer durables, inventories. Government spending actually increased in the early stages.

In 1953, on the other hand, of all the major private components only inventories contracted substantially; the others held steady or even expanded. A decline in *government* spending was a major cause of that recession.

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* Readers who would like to know how this operation is performed may find it described in Moore, Geoffrey H., *Statistical Indicators of Cyclical Revivals and Recessions*, pages 78-91.

In this context, one needs only to glance at the list of indicators to see a second limitation: Each primarily measures only *private* economic activity. (This explains why they were somewhat less sensitive in 1953 than in 1948.) To be sure, government spending enters into some of them—new orders and the gross national product, for example; and the impact of automatic stabilizers, such as unemployment insurance, income-tax refunds, and farm-price supports, is felt in personal income, retail sales, and production. But no indicator shows specifically how government spending is changing or is expected to change.

Understandably, some have proposed adding one or more series that would do this. But such an addition would create a statistical conglomerate that might blur as often as it illuminated.

A better answer is to retain the current list but recognize this limitation, and to remember that, since government spending is a fourth of all spending in the United States, it influences total economic activity substantially. The probable extent and direction of this influence at any time must be determined from government budgets and other available reports.

This brings us to three very important points:

1. Economic indicators cannot predict when a business turning point will occur. While they can generally identify a peak or trough about the time it occurs, they can *confidently* be used to recognize a new recession or revival only after it has started. One reason is that genuine reversals in some series usually cannot be confidently distinguished from random fluctuations until some time has elapsed. Another is that it takes time to gather and transmit the data that show an indicator's curve *has* turned.

2. The indicators can give no idea of how intense a revival or recession will be, or of how long it will last, until it is well under way.

3. They do not, and should not be expected to, provide easy answers. Until some better method than now exists is discovered, the strategic factors in every economic forecast must be the forecaster's personal judgment and experience. The indicators' only proper function is to help him use these effectively. Regarded in this light, they can be extremely valuable.

APPENDIX

Economic Indicators in Three Recent Recessions

Figures 1 and 2 (pages 74 and 75) show how each indicator turned in relation to the general economic cycle for the recessions of 1948-49, 1953-54, and 1957-58. Table 1 (below) gives each lead or lag period relative to peaks and troughs in general economic activity.

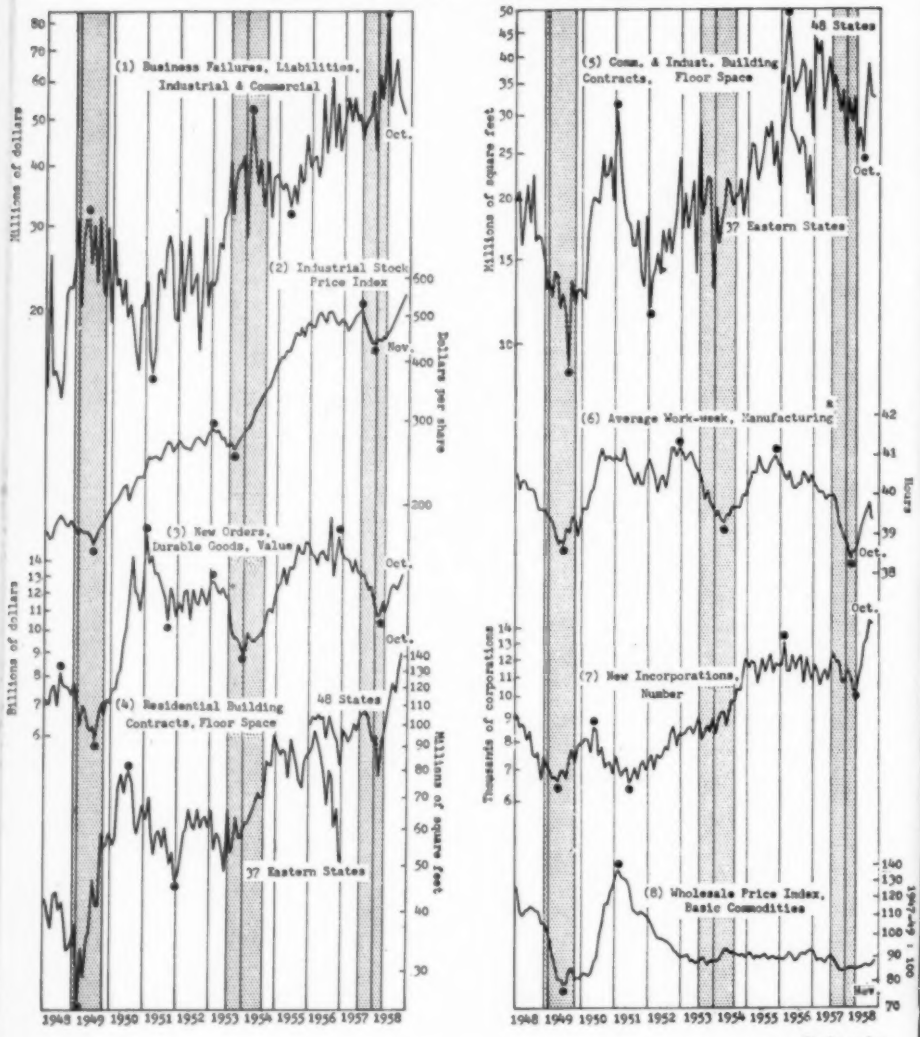
TABLE 1

LEADS (—) AND LAGS (+), IN MONTHS, OF 21 INDICATORS IN THREE RECENT RECESSIONS

	1948-49		1953-54		1957-58	
	Peak November 1948	Trough October 1949	Peak July 1953	Trough August 1954	Peak July 1957	Trough April 1958
Eight Leaders						
Business failures (total liabilities)	*	— 6	—28	— 5	—26	0
Industrial-stock prices (Dow-Jones)	—30	— 4	— 6	—11	0	— 5
New orders, manufacturers' durable goods	— 5	— 3	— 6	— 8	— 8	— 2
Residential-construction contracts (floor space)	—30	— 9	*	*	*	*
Commercial- and industrial-construction contracts (floor space)	—32	— 2	*	*	—16	+ 2
Average work week, manufacturing	*	— 4	— 7	— 4	—20	— 2
Number of new incorporations	—30	— 6	*	0	—17	0
Wholesale prices, 28 basic commodities (BLS)	—10	— 4	—29	0	*	*
Eight Coinciders						
Nonagricultural employment (BLS)	0	0	— 1	— 1	0	0
Unemployment (Department of Commerce)	—10	0	+ 1	+ 1	— 4	+ 4
Bank debits outside New York City	— 3	— 2	*	*	+ 1	— 1
Freight carloadings	—21	0	—31	0	—15	+ 1
Production (Federal Reserve Board)	— 1	0	0	0	— 5	0
Wholesale prices except of farm and food products (BLS)	0	— 3	*	*	*	*
Corporate profits	— 6	— 5	— 2	— 9	—20	— 2
The gross national product	0	— 5	— 2	— 3	+ 1	— 2
Five Laggers						
Personal income	— 2	0	+ 3	— 5	+ 1	— 2
Sales by retail stores	*	*	0	— 7	0	— 1
Consumer installment debt	*	*	+ 7	— 1	+ 6	*
Bank rates on business loans	+ 3	+ 1	+ 1	+ 1	+ 1	+ 5
Manufacturers' inventories	+ 7	+ 5	+ 5	+ 7	+ 5	+ 2

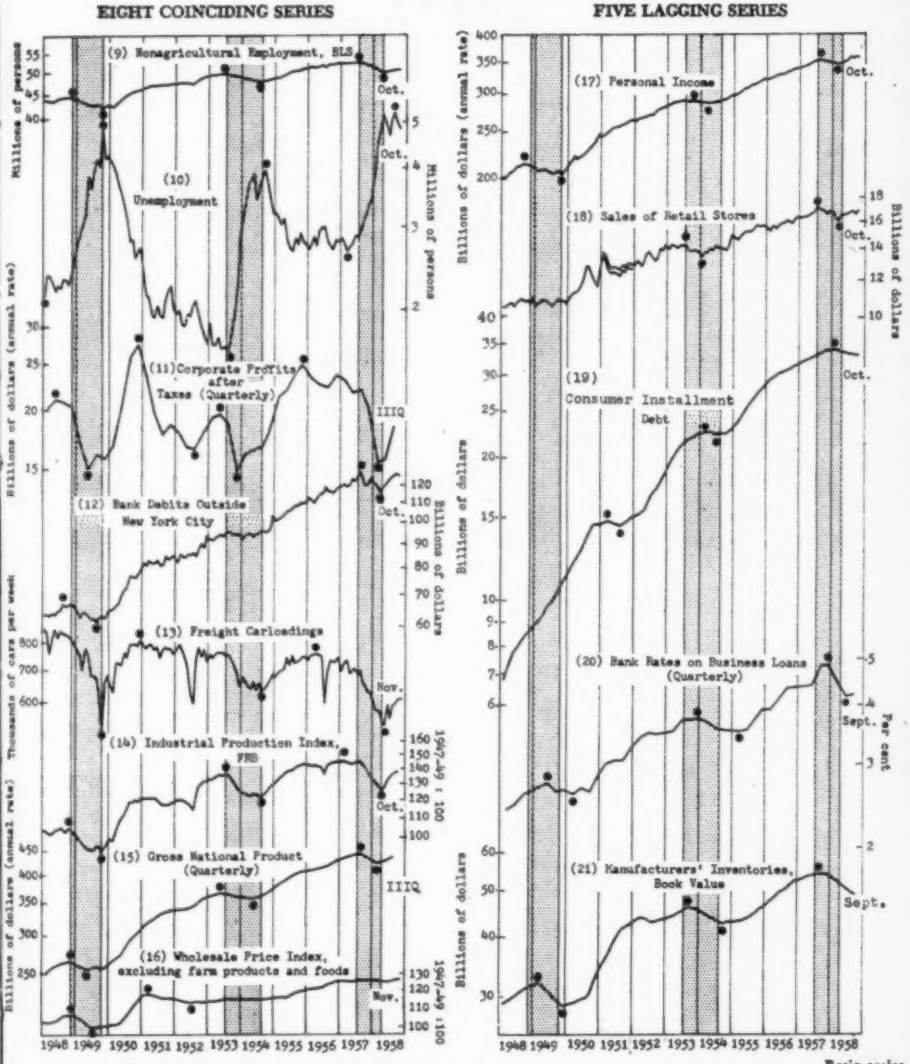
*Didn't turn enough or in close enough correspondence to be recognized as having reached a specific peak or trough.

FIGURE 1 — EIGHT LEADING SERIES



aArithmetic scale.
Does identify peaks and troughs of specific cycles; some recent turns tentative.
Source: National Bureau of Economic Research, December, 1958.

FIGURE 2



Dots identify peaks and troughs of specific cycles; some recent turns tentative.
Source: National Bureau of Economic Research, December, 1958.

As the table and figures show:

By the middle of 1948—almost half a year before the 1948-49 recession began—six of the eight leaders had warned it was coming. (The other two reached no specific peaks.) By the end of 1948, all the coincidents were signaling that the turning point had been reached. (It had been reached in November.) Fairly soon, three of the five laggers confirmed that a recession was under way. (Retail sales never turned significantly lower in 1948-49, but they did stop advancing; consumer installment debt expanded throughout this period.)

By the third quarter of 1949, all the leaders had turned; a revival impended. Shortly, all eight coincidents had also turned, identifying the trough. And when the economy began to expand again, late in 1949, manufacturers' inventories and personal income turned up with it; a third lagger, interest rates, turned up not much later. (The other two laggers had no recognizable turning points.)

On the whole, the indicators had foreshadowed the recession's coming, confirmed its arrival, and signaled its end.

The leaders foretold the 1953 recession a little less clearly, but still clearly enough that no one should have been totally unprepared. Wholesale prices had been declining and business failures increasing for about two and one-half years. New durable-goods orders and commercial construction, while up in mid-1953 from late 1951, were still down considerably from their early 1951 peaks. Residential construction had fallen from mid-1950 through the end of 1951, had regained part of the loss during 1952, and then fallen again through most of the first half of 1953. The average work week dipped sharply, and stock prices slightly, through early 1953. New incorporations turned, very slightly, when the general economy did.

Two coincidents—freight carloadings and wholesale prices—had been contracting, though quite slowly, for more than two years by mid-1953. Five others turned lower just about when the general cycle did (industrial production fairly sharply, the other four only very slightly). Unemployment (inverted) held level until a little later in the year but then turned sharply lower.

One lagger, retail sales, reached its peak and turned downward just as the general economy did, in July, 1953. Inventories turned in August, personal income in October (very slightly), interest rates in December, installment debt (very slightly) in February, 1954.

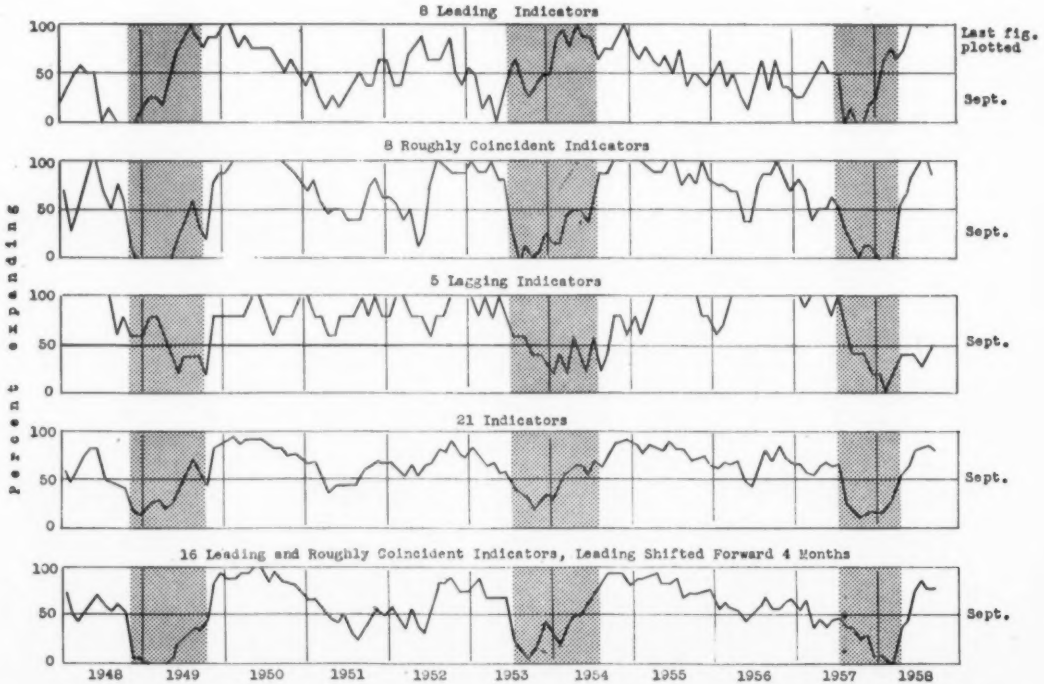
In short: The leaders gave advance warning, most of the coincidents accurately identified the turning point, and the laggers confirmed that a recession had arrived.

By the second quarter of 1954, four leaders were expanding again; apparently a revival impended. (Two leaders did not change recognizably, and two others reached their troughs coincidently with the general economy.) When the general economy began to recover, in the third quarter, all eight coincidents—and three laggers—had already started to expand.

The turning point had been foreshadowed, identified, and confirmed.

By the end of 1956, downturns in five of the eight leading series warned of an impending recession. When economic activity reached its peak, in the third quarter of 1957, another leader and seven of the eight coincidents had turned lower. (Two leaders and one coincident failed to turn.) By the end of the year, all five laggers had reached their peaks, giving the signal to watch for signs of a revival. In the first quarter of 1958, five leaders turned upward again, indicating a revival in the making. And by the end of the second quarter, six coincidents had reached their troughs. Recovery was under way.

FIGURE 3



Computed from directions of change in centered moving averages applied to each seasonally adjusted indicator; the number of rising indicators is taken as a percentage of the total number in the group. Based on data through November 1958 (4 series), October (10 series), September (4 series), third quarter (3 series).
Shaded areas represent business cycle contractions (Nov. 1948 - Oct. 1949, July 1953 - Aug. 1954, July 1957 - Apr. 1958); unshaded areas, expansions.

The first three diffusion indexes in Figure 3 summarize the behavior of the leading, coinciding, and lagging groups respectively for 1948 through 1958. All but the very smoothest individual curves have been smoothed by moving averages. Each index pieces the 50 per cent expanding line just where one would expect in relation to each general economic peak or trough: the leaders' before, the coinciders' at, and the laggers' after.

The fourth index, also smoothed by moving averages, shows the behavior of all twenty-one individual indicators. In the fifth, recently proposed by Milton Friedman, the leaders have been shifted forward four months (their average lead period in the past) and combined with the coinciders only. The erratic movement in these two series usually occur at the same time and, without this shift, tend to reinforce each other; with it, they tend to cancel each other out. These two indexes follow much smoother paths; their performances are somewhat easier to interpret on a current basis. Each reaches its turning point substantially before general economic activity does; each pierces (or falls below) the 50 per cent expanding line roughly when the general economy reaches a peak (or trough). ♦

"I give receipts for income-tax purposes."

(*Continued from page* 18)

the business by starting low in the organization in basic engineering and operating assignments. Third, he was given chief executive responsibility only when he had been exposed to all phases of the business in a lower general management capacity.

This case points up one succession requirement: the problem must be faced early and a plan developed. How are such plans wrought?

PLANNING FAMILY SUCCESSION

Management development for eventual succession is a real problem for family enterprises where there is an ambitious son, perhaps recently graduated from business school. How is the father to bring the son along so that he learns the business, has the chance to make mistakes, earns the respect of his colleagues, makes decisions, and develops confidence? Everyone is familiar with second generations that have been "propped up," potentially strong men that have atrophied, and men that never should have stayed in the business except that they felt a family obligation—or couldn't do as well elsewhere.

Timing, of course, is important in succession. There are two sides to this coin: Not only must the son be ready for the position, but the present incumbent must be prepared to withdraw gracefully. It is disturbing to see a son who is ready for full responsibility but who is being frustrated by an over-age father who refuses to let go.

To the extent possible, the succession transition should be made in stages. Long vacations give the father the opportunity to pass responsibility for interim periods of time and observe results. The father can also facilitate the transition by moving up to the chairmanship of the board. When he does, however, he should act only as chairman. If he is constantly in the office, he will find it virtually impossible to stay out of internal operating affairs. Most successful father-son relationships have been maintained when the father-chairman confines himself to occasional calls on old customers, presiding at board meetings, and community service activities.

The development of the son and the transfer of responsibility from the father is an especially sensitive problem. The timing of the moves and the assignment of respective responsibilities should be openly discussed and understood—otherwise, tensions will invariably develop that strain and perhaps destroy both the family and business relationships.

PLANNING OUTSIDE SUCCESSION

A family makes its most trying decision when it decides that none of its family members is adequate and it must go "outside" for leadership, either as a short- or a long-term solution.

The short-term solution is sought when a son or son-in-law who has presidential potential is considered immature or "underage" at the present time. In these situations, it often proves best to bring in a senior executive in his late fifties, both to manage the business and to coach the future president. Such a senior executive, of course, must be capable and, at the same time, compatible with the son; there must be enough age spread so that they are not competitive; and they must have mutual respect for one another.

Once the family decides to go outside, it must, or at least it should, make a full disclosure of financial data to the new incumbent. Ownership participation should be made clear and compensation arrangements openly faced.

Because of the personal and legal aspects of going outside, families sometimes select a lawyer to fill the top position. This may or may not be a reasonable selection. If the business has strong functional management in sales, engineering, and operations, a lawyer can be selected with reasonable assurance. If, on the other hand, difficult operating problems exist, the family should seriously consider a professional manager who has successfully faced similar problems.

A newly-appointed outside president, if he is worth his salt, will want a reasonably free rein in running the business. On the other hand, he is naive if he expects to approach his problems from the normal corporate viewpoint. He must respect the interests of the family and have a keen sensitivity to family relationships if he hopes to get along.

There will often be personnel in the company that the new

president will consider "deadwood." Chances are these people have grown up with the firm, and the fact that the company is obligated to them can be a serious problem to the outside president.

It is difficult to prescribe a set of rules to handle such situations. The respective personalities and the relationship between the retiring president and the new incumbent have a great deal to do with how these loyal but ineffective employees should be treated. Ideally, the new man should have a free choice of all people if he is to bear responsibility, but he can't move too fast or it can be demoralizing. Moreover, he has to test allegiances. All in all, it requires understanding, forebearance, and decisiveness when action finally must be taken.

A new president from the outside, regardless of his ability, is engaged in wishful thinking if he expects to be in a strong, solid position within a year or two in a company that has been family-dominated for fifty years. Similarly, the family is hoping for too much if they expect him to be.

NON-FAMILY MANAGEMENT

Organizing non-family management around the sensitive relationships that develop in a family is a tremendous challenge for owner-management. Although family interests must be kept in mind, non-family members must be provided with responsibility and opportunity, or the business may find itself staffed with mediocre people who look to the family to make basic decisions.

The non-family member of a family company is always in a vulnerable position. Usually there is a ceiling on his advancement. Moreover, the family may sell out, resulting in any number of unforeseen eventualities. As a result, strong men tend to move out of family companies at the first opportunity. In fact, management consultants in their placement activity often examine family companies for strong men that are blocked out of growth opportunities.

Nevertheless, some family companies have done a good job in bringing along non-family members. One such company has made it a point to send its better people, regardless of family affiliation, to advanced management courses and to all the trade conventions. More important, the non-family management personnel have been given responsibility and have been encouraged to express them-

selves without restraint. Furthermore, family members have been bypassed in favor of more competent non-family managers when necessary.

At the same time, the young family member often has more obstacles than his non-family colleague in developing his full management capabilities. Some superiors may lean over backward to avoid a record of failure among young family employees. As a result, it is exceedingly difficult to determine when a young family member (as compared to an outsider) deserves advancement.

CONFLICTS OF FAMILY INTERESTS

Most family companies develop in the shadow of the founder and are dominated by his personality, character, and ambition. With the growth of the business and the increase of progency come increasing conflicts of interests. Competition for position and income among family members can strain the best of family relationships. Intrigues and jealousies may readily develop, and minority members may join forces to gain strength and security. Family companies are seldom without problems of family conflict. Nevertheless, they can be minimized by careful organization practices.

An outnumbered family minority is normally in an untenable position. Often their function in the enterprise deteriorates to a watchdog position that is hardly constructive. When company-wide decisions are strongly influenced by personal interests of a dissident few, the company is in for difficult times. Minority members sometimes stay in the company without improving their own business careers until a crisis finally develops in which they are bought out or forced to resign.

Where a minority family interest does exist in the company, the majority group can improve relationships by developing a receptive management attitude. The controlling members should bend over backward to keep the minority informed of company plans and avoid withholding information thoughtlessly. Since they are in the stronger position, it is incumbent on them to create a positive atmosphere if the relationship is to be sound.

Two or more "equal" competitors for a single job, such as two sons of a father-president, sometimes aggravate family conflicts. The president of one family company, for example, has temporarily

satisfied the respective interests of two capable sons by placing one in charge of sales and the other in charge of production. A similar approach has worked nicely in a ceramic business: One son operates the plant making industrial products, and the other son produces commercial and residential products in another location. Each has his own profit responsibility and operates with reasonable autonomy.

In spite of these interim solutions, however, each of the fathers must some day choose between his two sons when he selects a chief executive, and one son is slated for a secondary role as long as he stays with the firm.

These two examples point up an important requirement in dealing with any family members: they must be given specific and defined jobs that will test their capacities to the utmost. When they are treated as privileged personnel they will soon act accordingly. Of course, if they can't or won't perform, the most sensible answer is to help them locate elsewhere.

COMPENSATION IN THE FAMILY BUSINESS

Succession problems, handling non-family members, and inter-family conflicts are all either aggravated or ameliorated by compensation practices. Generally, compensation practices are more loosely handled in family companies than in larger corporations. There is less formality in salary structure, salary reviews, and bonus plans.

The compensation pattern of the family itself is usually based on a number of tax and estate considerations. Management compensation, on the other hand, should be closely related to organization. Compensation problems invariably arise when the family is unable to look at compensation objectively—without regard to extenuating family influences. If salary is a relatively unimportant income source to the family president, as it often is, it is likely to be pegged at a low level. The entire salary structure is then established with this figure as the upper limit, with obvious detrimental results, including loss of competent personnel, low morale, and subnormal effort.

There appears to be a definite trend on the part of family companies to liberalize compensation and encourage equity participation. These devices, of course, are recognized as means of offsetting the

growth limitations placed on non-family members. Moreover, family companies now realize more clearly that there is a certain market price for management.

Certainly, the family-held business has a major advantage over widely held corporations in developing unusual incentive opportunities for its management. Because general management is also ownership, the family business can move faster on compensation matters, and it faces fewer administrative restrictions from finance committees or any threat by stockholder action.

Unfortunately, family businesses have difficulty using stock purchase and stock-option plans as advantageously as corporate companies in competing for management talent. The non-family member has to take a close look before tying up his capital in a family enterprise where liquidity is questionable.

At least one family company has regretted the day it sold stock to a non-family manager. The stock transaction took place when relationships were sound—only to turn sour at a later date when the relationships deteriorated. The legal battles that followed to establish stock values were costly, nerve-racking, and generally disagreeable.

Some effective stock plans have been devised for transferring ownership to non-family personnel as the family passes out of the management picture. One in particular provided for the gradual exchange of family common stock to a preferred issue that provided adequate income for family heirs but ultimately passed voting control to the succeeding management.

GROWTH OF THE FAMILY BUSINESS

The organization problems of the family concern change with growth, especially these days when more and more are going "public." This transitional stage generates its own organization problems. The ownership suddenly finds it must account for performance to others, and a management organization must be developed to implement company goals, rather than family individuals being promoted to further family interests. This concept change is often difficult for the family to accept.

Growth of the family enterprise calls for a continual change in the management philosophy of the business. The tight, centralized

control of the family head in a single-product or single-plant company may not be workable in an evolving multiproduct or multiplant situation.

New functions that have not been formally organized heretofore may now be required. Market research, quality control, industrial engineering, financial planning, and other factors may be called for in terms of specific organization units. Important jobs that family or non-family members may move into are established. As a result, management analysis and decisions are handled by an increasing number of people, and the family head starts to lose the detailed, "fingertip" knowledge that formerly made the business successful. How can the "intuitive" judgments that worked so well in the past be carried forward by the newly developed organization? This question plagues owner-managers, especially if new overhead starts to eat up former profits. Consequently, many of the family growth companies go through an unprofitable shakedown period.

All in all, in facing growth or acquisition the owner-manager must reconcile himself to the fact that things will never be the same. He can no longer operate as independently as before, and he must change his point of view to keep pace with his change in operations or he is in for frustration and heartache.

ORGANIZATION IN THE FAMILY BUSINESS

Although the organization problems of the family business are complex and subtle, they are by no means insurmountable. The solutions, however, are not necessarily orthodox; in fact, they are more likely not to be. Nevertheless, there are certain organization concepts that have particular application to family situations:

1. Develop company objectives and organization plans first with a disregard for the family—then adjust to meet the compelling family interests.

2. Face the succession problem long before it becomes immediate—so that the transition is not a matter of expediency, is sound, and is not unduly disturbing.

3. If possible, see that family candidates for succession get some experience outside the company. Make sure they have line operating experience.

4. Go outside for a chief executive if the family can offer no

competent answer. Don't, however, expect the new president to be able to handle immediately the personality problems as well as technical problems he will face.

5. Give non-family management a reasonable amount of responsibility and let them know where they stand. The same principle applies to minority family members.

6. Don't let family compensation needs distort a fair and equitable over-all company compensation pattern. Use compensation to hold non-family management.

7. Try to look at problems and make decisions without being emotionally influenced by family requirements. Recognize when the decision is being compromised for "family" reasons.

8. Make sure that management control information is at least the minimum required.

9. Conduct the affairs of the enterprise to create a management atmosphere of understanding and good will without being patronizing—to minimize the restrictive and "personal" nature of the business.

10. Plan reasonably in advance for the inevitable day when the company is to "go public." Develop attitudes and concepts in keeping with the changing conditions.

Necessarily, the solutions to management organization problems are subject to change with the changing situations in the family. Family deaths, marriages, sickness, estate changes—all tend to make family management more volatile than corporate management. Management organization, of course, has never been a static thing, but the effects of change are more readily apparent and have more immediate impact in the family concern. ♦

Book Notes

(Please order books directly from publishers)

NEW TECHNIQUES FOR MANAGEMENT DECISION MAKING. By Franklin A. Lindsay. McGraw-Hill Book Company, Inc., New York, 1958. $15.00 ($12.50 for subscribers). The latest in the series of McGraw-Hill consultant reports on current business problems, this book covers useful techniques in operations research, statistical analysis, econometric analysis, systems analysis, and computer simulation, all of which are described with the specific needs of the executive in mind.

TOOLS AND TECHNIQUES OF MODERN MANAGEMENT. Edited by Aline L. Hopkins. The Bureau of Business Management, College of Commerce and Business Administration, University of Illinois, Urbana, 1958. 63 pages. $2.00. A compilation of the talks given at a conference on industrial management for the Bureau of Business Management of the University of Illinois in cooperation with the Illinois Manufacturers' Association. The topics discussed include current marketing trends for light industry, an evaluation of managerial and employee fringe benefits, the business executive's community responsibility, and opportunities for the growth of small businesses.

HOW TO HOLD A BETTER MEETING. By Frank Snell. Harper & Brothers, New York, 1958. 148 pages. $2.95. This practical, pocket-sized handbook describes such problems as how to promote clear and effective discussion, how to be a better leader, the various ways of calling a meeting, and the best meeting forms to use. It also covers various ways of cultivating ideas and reaching solutions, and shows how to guide a meeting to brisk and effective decisions.

BUSINESS FORECASTING. By Elmer C. Bratt. McGraw-Hill Book Company, Inc., New York, 1958. 366 pages. $7.50. A thorough treatment of business forecasting methods, written by an authority in the field, this text is a convenient guide to the forecasting practices actually used by business concerns. While the methods are presented as objectively as possible, the author offers some criticisms about each and discusses their practical implications.

Publications Received

(Please order directly from publishers)

FINANCE

MANAGEMENT PLANNING FOR CORPORATE TAXES. By William J. Vatter. Controllership Foundation, Inc., 2 Park Ave., New York, 1958. 46 pages. $3.00, members; $4.00, nonmembers.

TAX-OPTION CORPORATIONS: *Corporations Electing to be Taxed as Partnerships (Sub-chapter S).* Commerce Clearing House, Inc., Chicago 46, Ill., 1958. 96 pages. $2.00.

FEDERAL TAX ANGLES IN REAL ESTATE: *Second Printing.* Prentice-Hall, Inc., Englewood Cliffs, N.J., 1958. 26 pages. $1.05.

READINGS IN FINANCE FROM FORTUNE. Henry Holt and Company, 383 Madison Avenue, New York 17, N.Y. 1958. 122 pages. $1.50.

MAJOR TENDENCIES IN BUSINESS FINANCE. National Association of Manufacturers, 2 East 48 Street, New York 17, N.Y. 1958. 59 pages. $1.00.

INTERMEDIATE ACCOUNTING. By Wilbert E. Karrenbrock and Harry Simons. South-Western Publishing Company, Cincinnati, Ohio, 1958. Third Edition. 982 pages. $7.25.

INTERMEDIATE ACCOUNTING. By Arnold W. Johnson. Rinehart & Company, Inc., New York, 1958. Revised Edition. 793 pages. $8.50.

ESSENTIALS OF ACCOUNTING. By William A. Paton and Robert L. Dixon. The Macmillan Company, New York, 1958. 800 pages. $7.50.

NEW SHARES FOR OLD: *The Boston and Maine Stock Modification.* By Robert L. Masson. Division of Research, Harvard Business School, Boston 63, Mass., 1958. 398 pages. $4.50.

AMA CONFERENCE CALENDAR

APRIL - MAY, 1959

DATE	CONFERENCE	LOCATION
April 13-15 April 13-17	28th Annual Packaging Conference and Packaging Exposition	Palmer House and International Amphitheater, Chicago
May 6-8	Spring Insurance Conference	Roosevelt Hotel, New York
May 11-13	Special Personnel Conference on Labor Relations	LaSalle Hotel, Chicago
May 20-22	General Management Conference	Roosevelt Hotel, New York

To register or to obtain additional information on any of the conferences listed above, please contact Department M4, American Management Association, 1515 Broadway, New York 36, N.Y.